NOVA SCOTIA

Annual Statistical Report
Fiscal 2002-2003

NOVA SCOTIA DEPARTMENT OF HEALTH
ANNUAL STATISTICAL REPORT
2002 – 2003

COMPILED BY:
PERFORMANCE MEASUREMENT & HEALTH INFORMATICS
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For additional information on the data included in this report, please contact the Performance Measurement and Health Informatics Division of the Department of Health at (902) 424-8291.

Copies of this report are available on line at www.gov.ns.ca/health/reports.htm

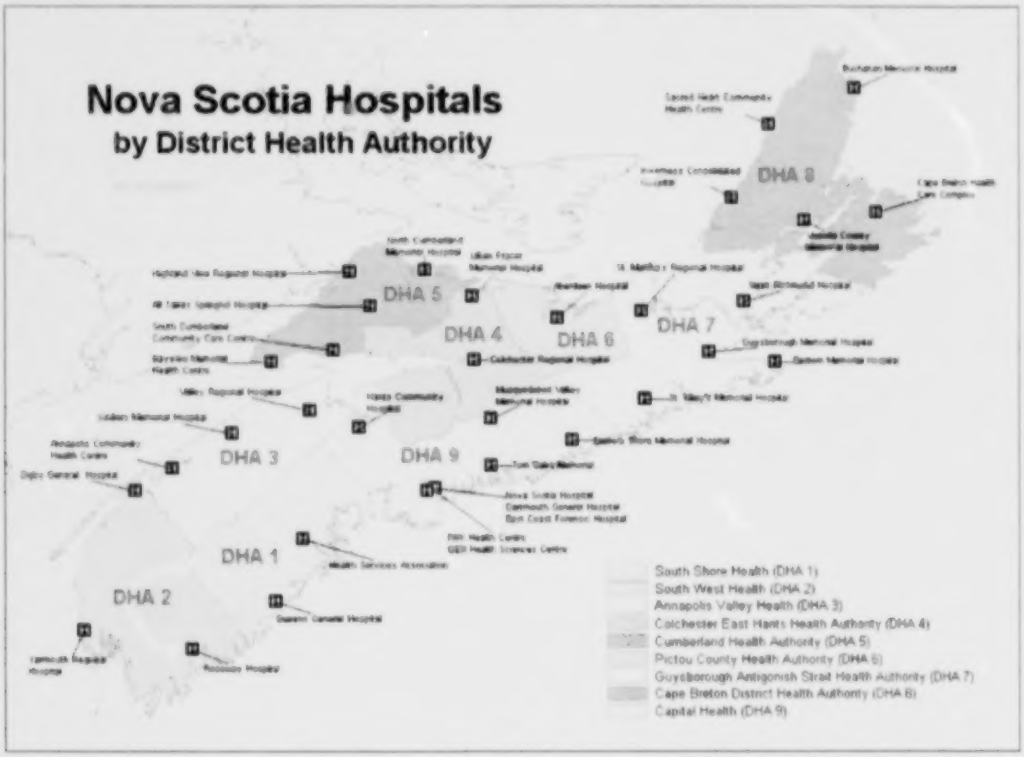
Acknowledgements 6
Section 1 7
Health Promotion and Population Health 7
Breastfeeding 9
% of People Physically Active in a Given Population 11
Regularly Drank More Than 12 Drinks a Week 13
Exposure to Environmental Tobacco Smoke 14
Daily & Occasional Smokers 16
Depression Measures 18
PAP Smear and PSA Testing 20
Mammography Screening 22
Respondents Age 65+ Who Reported 23
Having Had a Flu Immunization in the Last Year 23
Section 2 25
Disease Incidence & 25
Chronic Health Conditions 25
Breast Cancer Incidence Rate 27
Prostate Cancer Incidence Rate 28
Colorectal Cancer Incidence Rate 30
Cervical Cancer Incidence Rate 31
Breast Cancer Mortality Rate 32
Prostate Cancer Mortality Rate 33
Colorectal Cancer Mortality Rate 34
Cervical Cancer Mortality Rate 35
Incidence of Invasive Meningococcal Disease 36
Incidence of Verotoxigenic 38
Escherichia coli Infection 38
Incidence of Chlamydia Trachomatis Infection 40
Prevalence of Diabetes 42
Pneumonia/ Influenza 43
Section 3 45
Surgical Interventions 45
Total Hip Replacements 46
Total Knee Replacements 48
Hysterectomies 50
Cardiac Catheterizations 52
Coronary Angioplasties 54
Coronary Artery Bypass Graft (CABG) 56
Section 4 58
Provincial Programs and Services 58
Mental Health Programs 59
Addiction Services Programs 65
Adult Protection Services 67
Home Care Nova Scotia 70
Emergency Health Services Nova Scotia (EHS) 71
Tobacco Control Unit 75

Section 5 77
Health Care System Performance 77
Patient Days per 1000 Population 78
Beds per 1000 Population 80
Average Length of Stay 81
Alternate Level of Care 82
Percentage Elective Surgery Performed On the Day of Hospital Admission 84
Readmission to the same Hospital – Unplanned from previous Acute Admission within one week of discharge 86
Ambulatory Care Sensitive Conditions 87
Inflow/Outflow Ratio 89
Caesarean Section 90
Cardiovascular Surgery Wait Times 92
Section 6 94
Insured Programs Indicators 94
Physicians per 10,000 Population 95
Physicians' Services: Number of Physicians by type of Practice 96
Registered Nurse per 10,000 population 97
Insured Services: Total Expenditures for Insured Services 98
Physicians' Services: Total Expenditure for Insured Physicians' Services 99
Physicians' Services: Expenditure per Insured Nova Scotia Resident 100
Physicians' Services: Total Number of Insured Services 102
Physicians' Services: Average Number of Insured Services per Nova Scotia Resident 103
Seniors' Pharmacare Program: Total Program Cost 105
Seniors' Pharmacare Program: Program Cost per Beneficiary 106
Section 7 107
Management Information Systems Indicators 107
Ambulatory Care Clinic Functional Centers Acute Care/Hospital Services 109
Day Surgery Functional Centers Acute Care/Hospital Services 112
Diagnostic Imaging (DI) 115
Emergency Services 118
Intensive Care Units Acute Care/Hospital Services 121
Laboratory Services Acute Care/Hospital Services 125
Withdrawal Management Inpatient Services Acute Care/Hospital Services 129
Mental Health Acute Inpatient Activity 132
Medical Units; Surgical Units; Combined Med/Surg Units; & Paed Units 137
Acute Care/Hospital Services 137
Management Information Systems Corporate Indicators 141
How Did We Do? 148

The 2002 – 2003 Annual Statistical Report provides data from all District Health Authorities, informing Nova Scotians of health measures and the health care system performance in Nova Scotia. As noted on the map below, the District Health Authorities are made up of several health services regions that include a number of different health services facilities from hospitals to clinics to community health boards. All of these facilities work together to provide the utmost quality of care to the people of Nova Scotia in accordance with the Canada Health Act's tenets of portability, accessibility, universality, comprehensiveness and public administration.

In this report, various health measures will be reported; from cancer mortality and incidence rates to patient days at hospitals. Each indicator's report will include technical specifications, significance and rationale for reporting, analysis and data graphs or tables for the 2002/03 fiscal year.

Information obtained from the Canadian Community Health Survey (CCHS) will remain the same, reporting on 2000-2001. The next cycle in the CCHS will appear in next year's annual statistical report, reporting on 2002-2003.



Nova Scotia Department of Health, January 2004

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Section 1
Health Promotion and Population Health

Health is defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."[1] Our health status is influenced by a variety of factors, called "Determinants of Health", from genetic predisposition to disease to personal health practices such as nutrition and exercise. The determinants of health are factors that have been shown to predict or influence disease later in life. The determinants of health are:

- Income and Social Status
- Social Support Networks
- Education and Literacy
- Employment/Working Conditions
- Social Environments
- Physical Environments
- Personal Health Practices and Coping Skills
- Healthy Child Development
- Biology and Genetic Endowment
- Health Services
- Gender
- Culture

For instance, studies have shown that obesity plays a major role in the development of Type 2 diabetes and cardiovascular disease. We know that obesity most often results from poor nutrition or lack of physical activity. People could have poor nutrition habits for a number of reasons, including a lack of education on appropriate nutrition, or perhaps not having sufficient income or time to buy and prepare nutritious foods. By examining the characteristics of obese people in our population, we can plan effective programs and services targeted at the underlying causes of obesity such as inadequate income or inadequate nutrition education. Enacting programs and services to get at the root causes of obesity could result in reduced rates of Type 2 diabetes and cardiovascular disease in the long run.

In this section, indicators that reflect the determinants of health, called "population health indicators," are included to give us an idea of how healthy our population really is. Health promotion indicators show us the number of people

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[1] Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.

using the services and programs in place that promote proactive health and disease prevention.

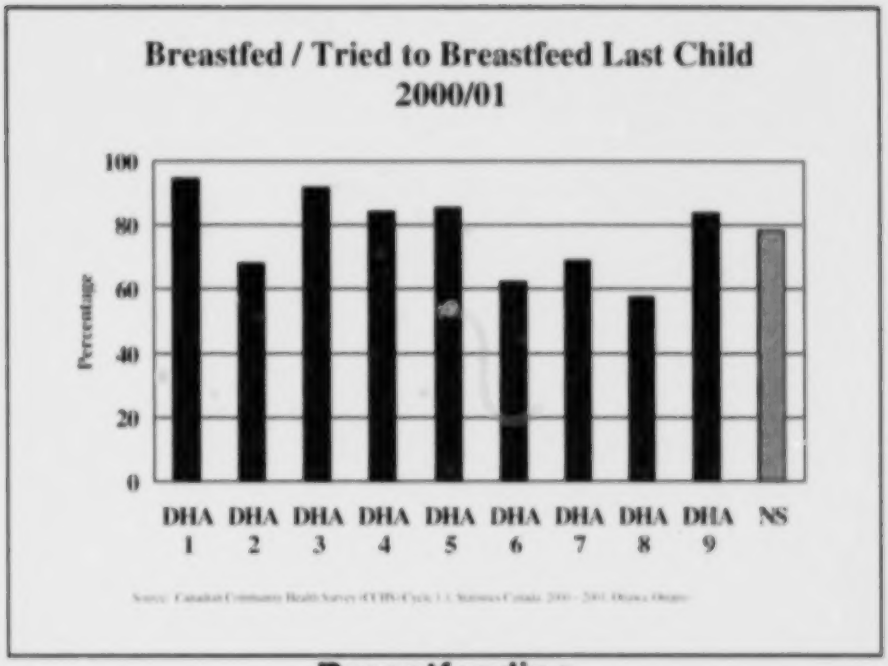
One of the ways that we collect information on population health and health promotion indicators is through population surveys such as the Canadian Community Health Survey and the National Population Health Survey. Several of the indicators in this report are from the Canadian Community Health Survey Cycle 1.1, released in May of 2002. The Canadian Community Health Survey (CCHS) collected information from 30,000 Canadians, aged 12 to 102 years, about health conditions, health practices and lifestyle, access to health care and general information such as age, sex, income, and education. People in the military, living on Indian Reserves or living in some remote areas were not included in the Canadian Community Health Survey.

All Canadian Community Health Survey data responses are self-reported. Canadian Community Health Survey data are weighted to represent the proportion of Nova Scotia's population in each Health Zone. All Canadian Community Health Survey data must include a measure of variance in order to illustrate the reliability of the estimate.

Disclosures:
Small sample sizes may affect the validity of the data. Due to this, confidence intervals are available for this indicator by contacting the Department of Health. Future use of this data should be done only with knowledge of accompanying confidence intervals.

For more information on the Canadian Community Health Survey, visit Statistics Canada Website at www.statscan.ca, or visit the Nova Scotia Department of Health's comprehensive publication of the Canadian Community Health Survey at http://www.gov.ns.ca/health/reports.htm

Canadian Community Health Survey (CCHS) Cycle 1.1, Statistics Canada, 2000 2001, Ottawa, Ontario.



Breastfeeding

Definition

1. The percentage of women, of those who gave birth in the last 5 years, who breastfed or tried to breastfeed their last infant.
2. The percentage of women, of those who gave birth in the past five years and breastfed their last infant (but don't anymore), by length of time breastfeeding.

Significance - Rationale and Notes for Interpretation

Measuring the prevalence of breastfeeding is one indicator of healthy choices in early childhood development. Measuring the duration of breastfeeding is another indicator of healthy choices in early childhood development.

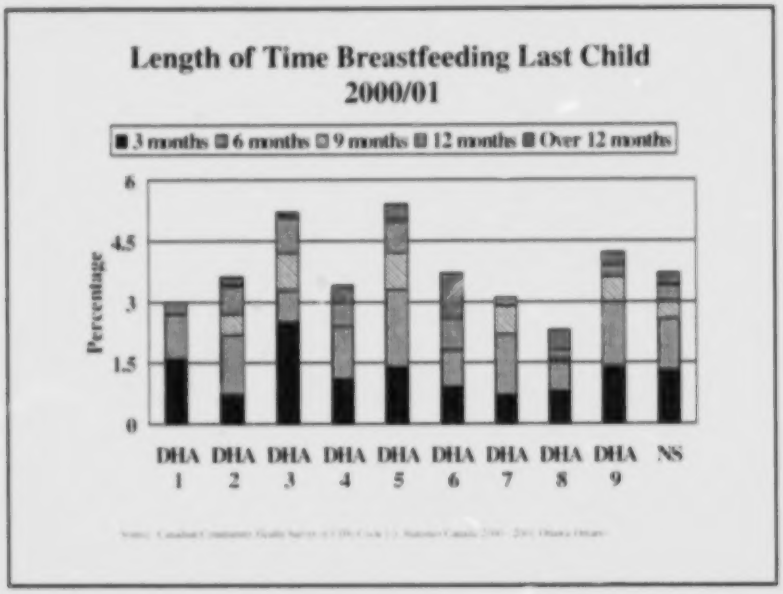
Technical Specifications

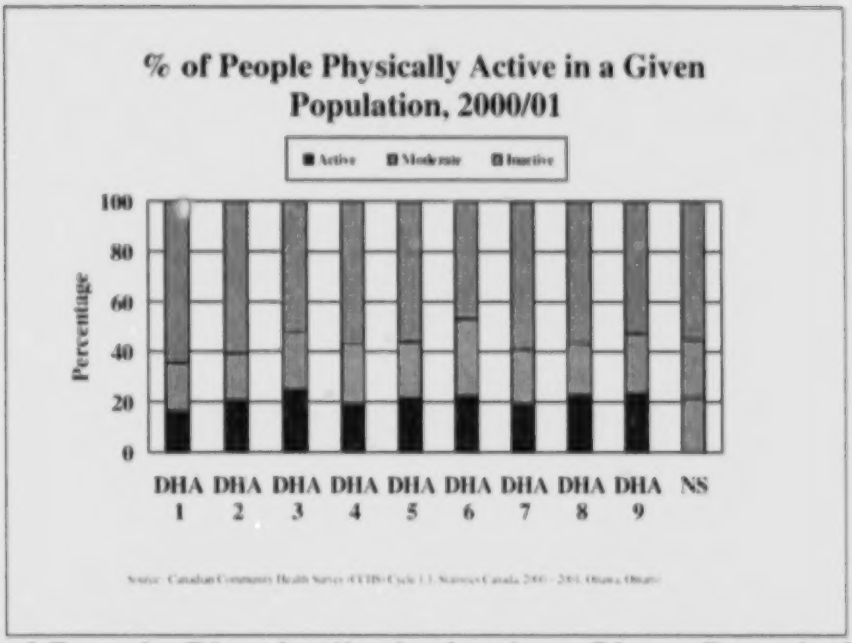
Calculation:

1. ((The number of women aged 15 to 55 who have given birth in the last five years who breastfed or tried to breastfeed their last child even if only for a short time)/(The total number of women aged 15 to 55 who have given birth in the last 5 years) X100) for each of Nova Scotia's 9 District Health Authorities, Nova Scotia, and Canada.
2. ((The number of women aged 15 to 55 who have given birth in the last five years and who breastfed up to 3 months, 3-6 months, 7-9 months, 10-12 months or over 12 months)/(The total number of women aged 15 to 55 who have given birth in the last 5 years) X100) for each of Nova Scotia s 9 District Health Authorities, Nova Scotia, and Canada.

Note: all duration categories are mutually exclusive.

Source: Canadian Community Health Survey (CCHS) Cycle 1.1, Statistics Canada, 2000-2001, Ottawa, Ontario.





% of People Physically Active in a Given Population

Definition

1.The percentage of people whose physical activity level was either active, moderate, or inactive.
2.The percentage of male and female youth (aged 12 to 19) whose physical activity level was active, moderate, or inactive.

Significance - Rationale and Notes for Interpretation

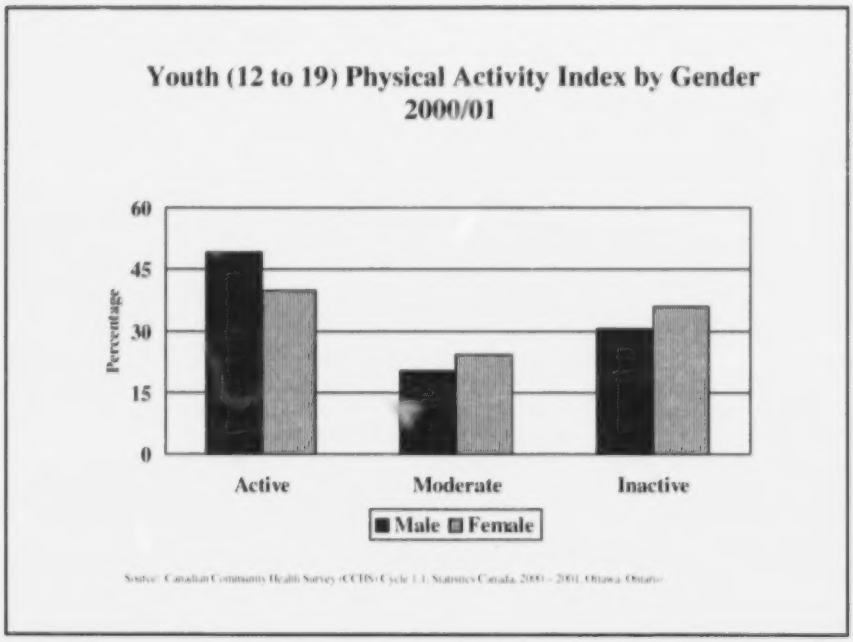
Regular sustained physical activity along with a healthy diet, maintenance of appropriate weight, avoidance of smoking, and adequate rest forms the basis of a healthy lifestyle. The links between regular and sustained physical activity and improved health for individuals has been clearly demonstrated in medical literature. Therefore, physical activity is an important indicator for estimating the general health and possible future health problems of a population.

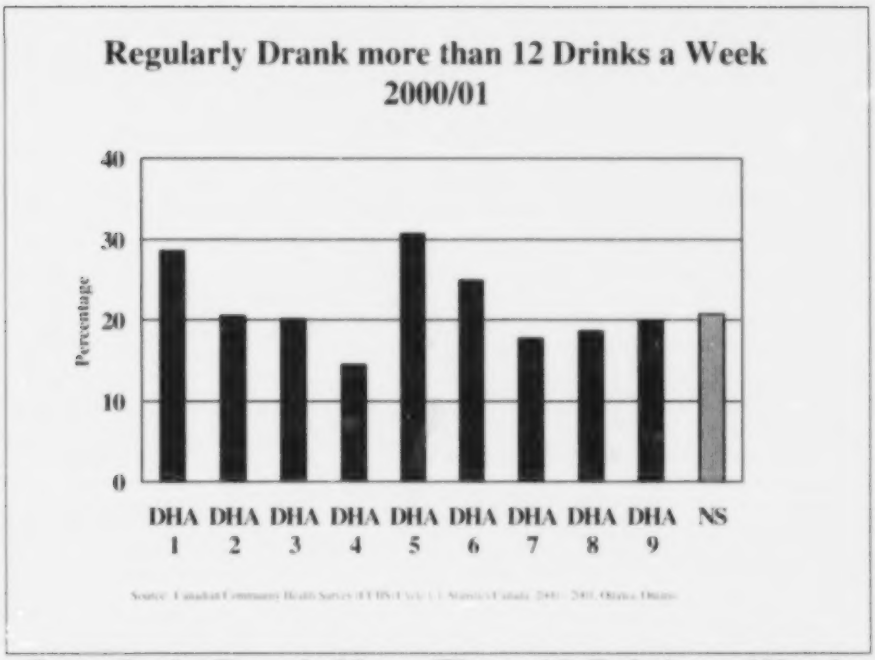
Technical Specifications

Calculation:

1. ((The number of people aged 12 years or older, who were either active, moderately active, or inactive; [based on energy expenditure of physical activity (amount and duration)]/(The total number of people aged 12 years or older) X100) for each of Nova Scotia's nine District Health Authorities and Nova Scotia.
2. ((The number of males and females aged 12 to 19, who were either active, moderately active, or inactive; [based on energy expenditure of physical activity (amount and duration)]/(The total number of males and females aged 12 to 19) X100) for each of Nova Scotia's nine District Health Authorities and Nova Scotia.

Source: Canadian Community Health Survey (CCHS) Cycle 1.1, Statistics Canada, 2000 2001, Ottawa, Ontario.





Regularly Drank More Than 12 Drinks a Week

Definition

The percentage of people who drank alcohol in their lifetime, but not in the last 12 months, and regularly drank more than 12 alcoholic drinks in a one-week period.

Significance - Rationale and Notes for Interpretation

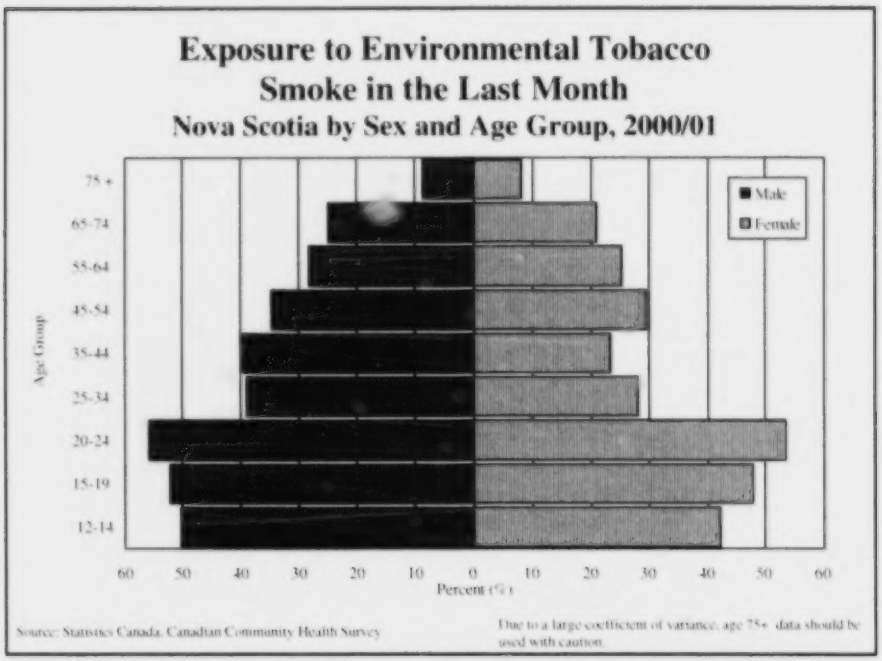
Alcohol consumption is common in adult Canadians. Some medical studies have suggested that regular but minimal use of certain alcoholic beverages may provide increased heart-health. Chronic heavy use has been clearly shown, however, to be detrimental to the drinker's health. Moreover, alcoholism and alcohol-related injuries and fatalities occur frequently. Measuring the regular use of alcohol gives an indication of the possibility for alcohol-related injuries and health problems. The measure does not illustrate the timing of the more than 12 drinks, for instance, all at once or some each day.

Technical Specifications

Calculation:

((The number of people aged 12 years or older who have had at least one drink in their lives, but not in the past 12 months, and who drank at least 12 drinks per week)/(The total number of people aged 12 years or older who have had at least one drink in their lifetime, but not in the past 12 months) X100) for each of Nova Scotia's 9 District Health Authorities, Nova Scotia, and Canada.

Source: Canadian Community Health Survey (CCHS) Cycle 1.1, Statistics Canada, 2000 2001, Ottawa, Ontario.



Exposure to Environmental Tobacco Smoke

Definition
Non-smoking population aged 12 and over who were exposed to environmental tobacco smoke on most days in the month preceding the survey.

Significance – Rationale and Notes for Interpretation
This indicator reflects the effectiveness of the public health system in protecting non-smokers against exposure to tobacco smoke in public spaces and work places.

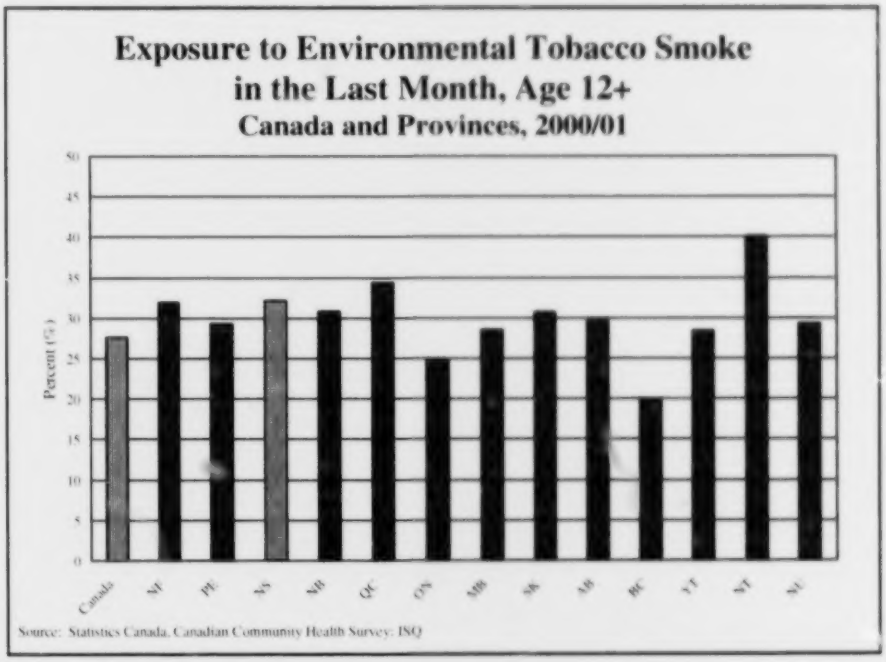
The relationship between environmental tobacco smoke and adverse health effects is well accepted. Second-hand smoke exposure is linked to increases in mortality from lung cancer and cardiovascular disease. Second-hand smoke has serious consequences for unborn children. Smoking mothers can bear children with lower birth weights, and children living in homes where they are exposed to tobacco smoke tend to have higher rates of asthma and respiratory tract problems. There is strong evidence of an association between exposure to environmental tobacco smoke and respiratory illness.

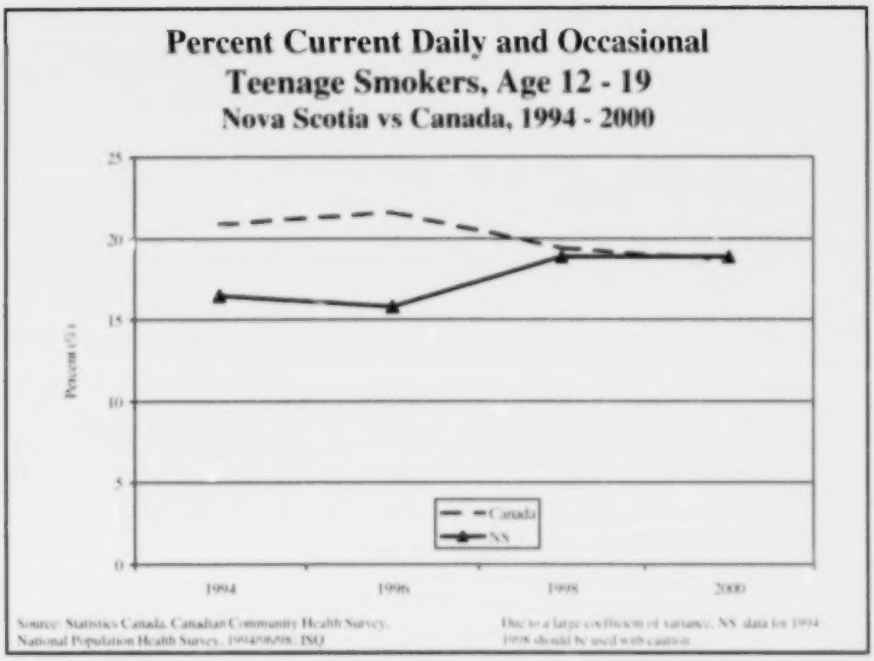
In 2003, Nova Scotia implemented a province-wide Comprehensive Tobacco Strategy. The strategy addresses seven key components: taxation, smoke-free places legislation, treatment/cessation, community-based programs, youth prevention, media awareness, and monitoring and evaluation. Through this comprehensive approach, by 2004-2005 the province hopes to decrease the second-hand tobacco smoke exposure rate to the Canadian average or less.

Technical Specifications

Calculation: ((Total number of non-smoking persons reporting exposure to environmental tobacco smoke in the last month in Nova Scotia)/(Total non-smoking population in Nova Scotia))

Source: Canadian Community Health Survey (CCHS) Cycle 1.1, Statistics Canada, 2000 2001, Ottawa, Ontario.





Daily & Occasional Smokers (Teenaged and Total Population)

Definition

1. Population aged 12 to 19 who report they are A) occasional smokers or B) daily smokers, at the time of the interview.
2. Population aged 12 and over who report being daily smokers.

Significance – Rationale and Notes for Interpretation

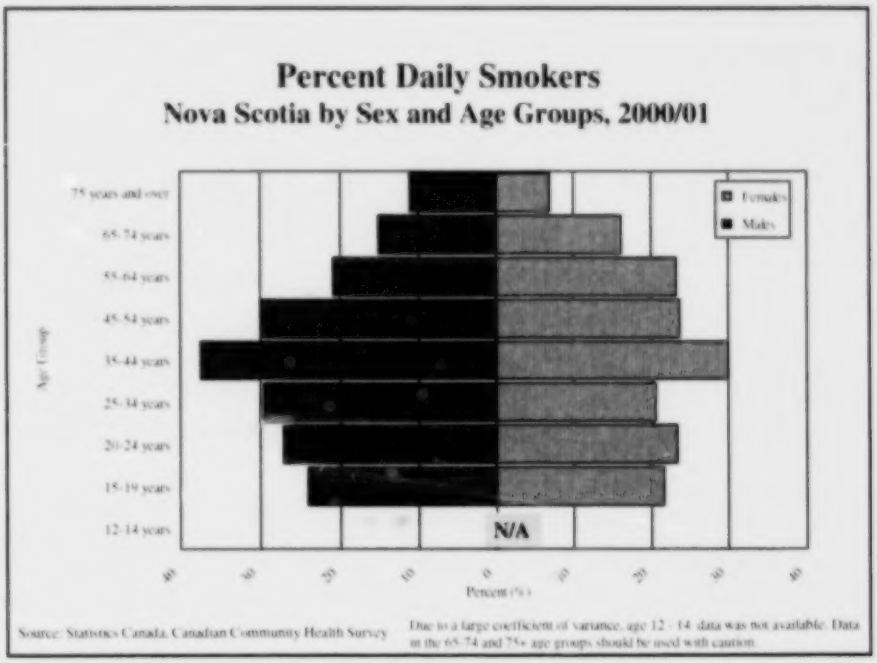
Tobacco use is the leading cause of preventable illness and death in Canada. Health Canada estimates that smoking is responsible for more than 45,000 deaths per year. These indicators represent the proportion of teenagers and total population who report current smoking habits. Because of the addictive nature of nicotine, youth smoking is of particular concern. Nova Scotia aims to decrease the percentage of youth who smoke. Strategies to achieve this target include continued implementation of all components of the Comprehensive Tobacco Strategy.

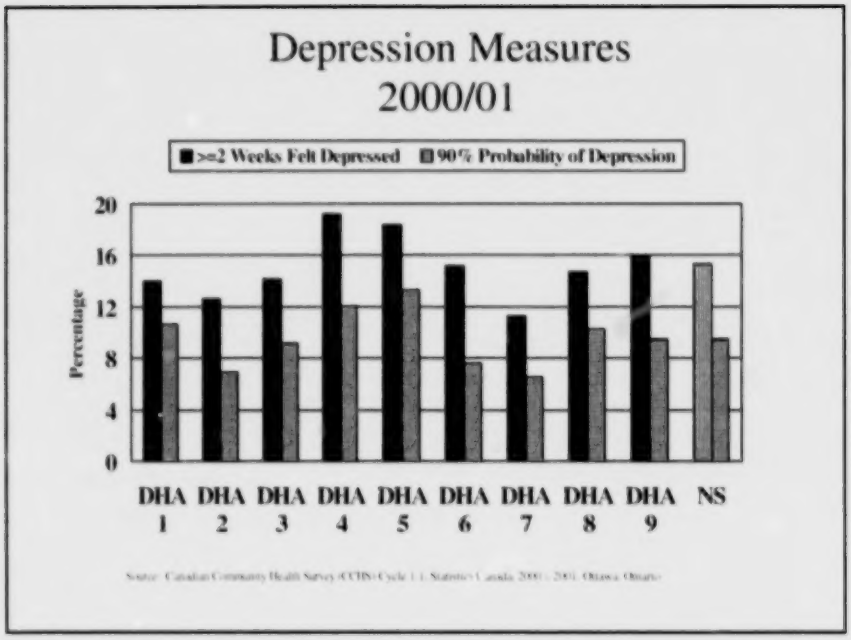
Technical Specifications

The data are based on the question: At the present time do you smoke cigarettes daily, occasionally or not at all?

Numerator: 1. Weighted number of individuals aged 12-19 who report a) occasional smoking or b) daily smoking
2. Weighted number of individuals aged 12+, by sex, who report a) daily smoking
Denominator: 1. Total population aged 12-19
2. Total population
Calculation: (Numerator/Denominator) x 100

Source: Statistics Canada, Canadian Community Health Survey; National Population Health Survey, 1994, 1996, 1998; ISQ





Depression Measures

Definition
The percentage of persons who felt sad, blue or depressed for at least two continuous weeks or longer in the past year and the percentage of people who, based on the answers to survey depression questions, were considered to have a greater than90% probability of being clinically depressed.

Significance - Rationale and Notes for Interpretation
Depression is one of the most prevalent mental health conditions in the population. The 'predicted probability of depression' score is calculated from responses to a series of questions, which were designed to 'diagnose' clinical depression (based on the Diagnostic and Statistical Manual of Mental Disorders, 3rd. Edition). The results show the percentage of the population in each district who have a 90% probability of being depressed. Statistics Canada recently reported (*The Health of Canada's Communities*, 2002) that Health Zone 3 (DHAs 4 and 5) has the second highest depression rate in the country, which is significantly higher than the national rate. However, no statistically significant differences were reported at the DHA level here, nor between Nova Scotia and Canada. This may be due to small sample size.

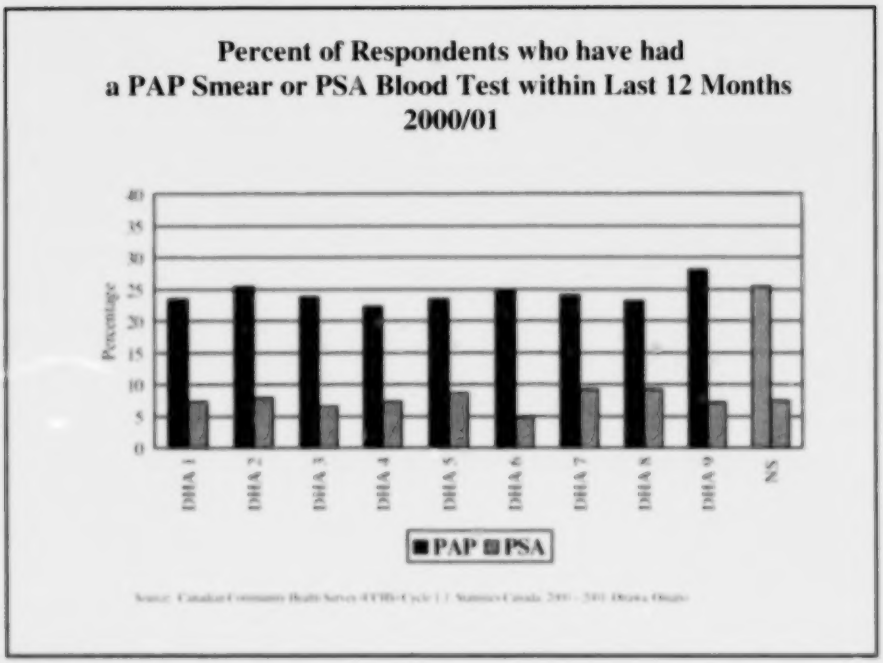
Technical Specifications

Calculation:

((The number of people aged 12 years or older who were sad/blue/depressed for at least a continuous two week period in the past year)/(The total number of people aged 12 years or older) X100)

((Respondents with 90% probability of clinical depression)/(The total number of people aged 12 years or older) X100)

Source: Canadian Community Health Survey (CCHS) Cycle 1.1, Statistics Canada, 2000/2001, Ottawa, Ontario.



PAP Smear and PSA Testing

Definition

1. The percentage of females aged 18 and over who have had a PAP smear in the last 12 months and percentage of males aged 40 and over who have had a PSA blood test in the last 12 months
2. The percentage of females aged 18 and over who have had a PAP smear in the their lifetime and percentage of males aged 40 and over who have had a PSA blood test in their lifetime.

Significance - Rationale and Notes for Interpretation

Prostate Specific Antigen (PSA) and Pap Smear Tests are used to screen for prostate and cervical cancers. These cancers, that affect a large proportion of the population, can be treated with early detection and managed quite effectively. Early and regular testing for these cancers, in the populations at risk, leads to earlier detection and better health outcomes. Measuring the percentage incidence of females and males taking the tests, and the frequency of screening, provides an estimate of health services resources used and perhaps the amount of further cancer testing education that needs to be done.

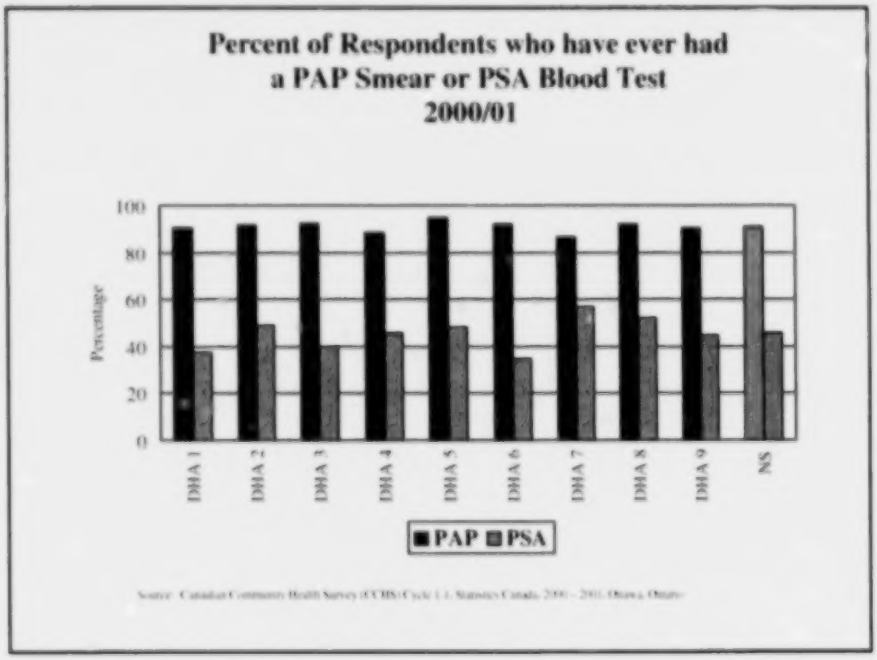
Technical Specifications

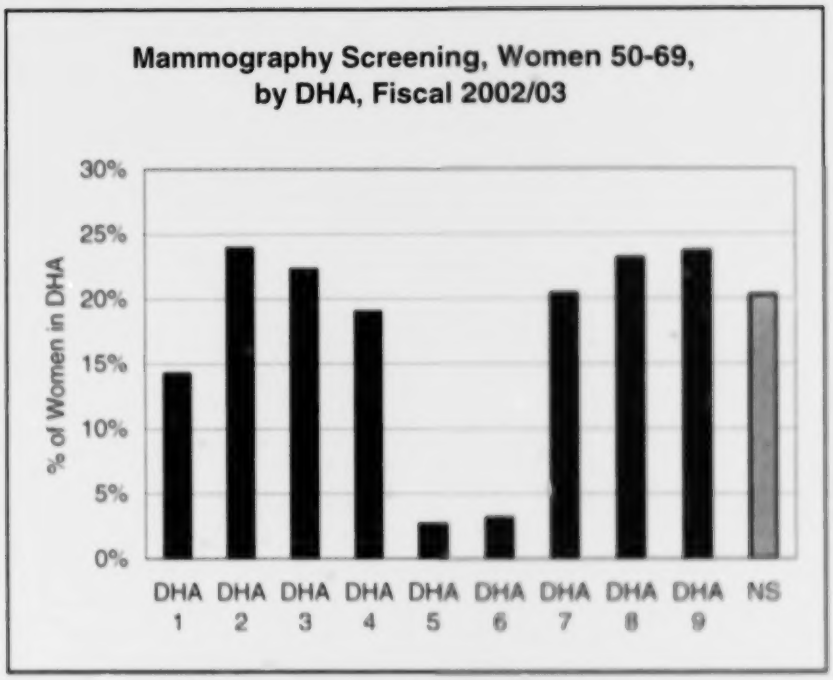
Calculation:

((The number of females aged 18 and over who have had a PAP smear test within the last 12 months)/(The total number of females aged 18 and over)) X100
((The number of males aged 40 and over who have had a PSA test within the last 12 months)/(The total number of males aged 40 and over)) X100

((The number of females aged 18 and over who have ever had a PAP smear test)/(The total number of females aged 18 and over)) X100
((The number of males aged 40 and over who have ever had a PSA test)/(The total number of males aged 40 and over)) X100

Source: Canadian Community Health Survey (CCHS) Cycle 1.1, Statistics Canada, 2000 2001, Ottawa, Ontario.





Mammography Screening

Percentage of Women Screened (Aged 50 to 69 Years)

Definition

This indicator measures the number of women ages 50 to 69 who have had at least one mammogram for breast cancer screening in a given fiscal year, as administered by the Nova Scotia Breast Screening Program.

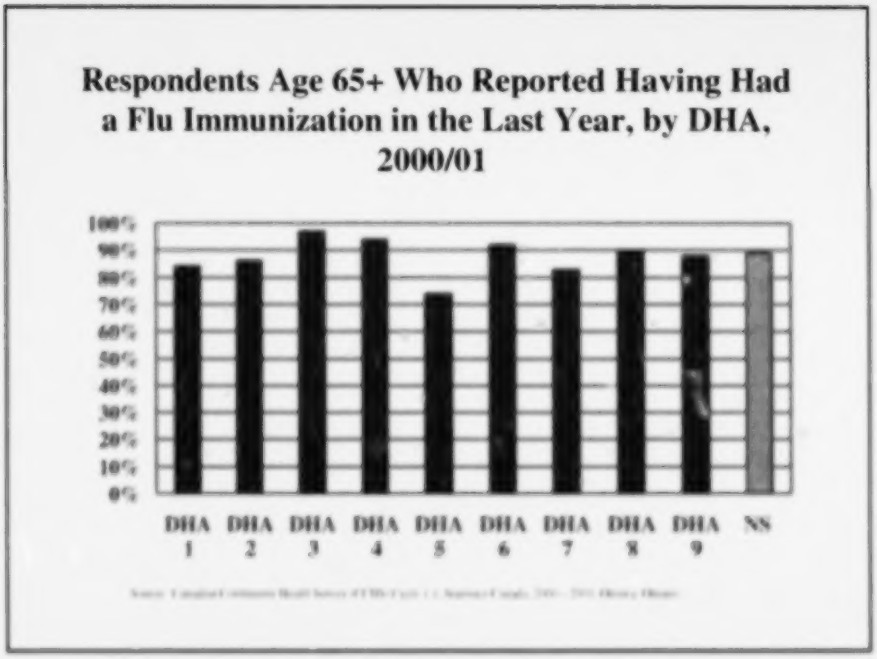
Significance – Rationale and Notes for Interpretation

The goal of the Nova Scotia Breast Screening Program is to "reduce the mortality from breast cancer in Nova Scotian women aged 50-69 years of age by 30%..." Since the establishment of the NSBSP in 1991 71,284 women have been registered in the provincial breast-screening database. 192,422 mammograms have been done. Women aged 50 to 69 are most at risk for breast cancer, making adequate screening measures imperative for this age group. Examining and reporting the number of first time breast screenings for women aged 50-to-69 enables the NSBSP program to monitor program promotion and use in each DHA, allowing evaluation of the program and indication of where extra attention may be needed.

Technical Specifications

Calculation: **((**The total number of women ages 50-69 who have had one mammogram during the past fiscal year**)/(**the yearly Nova Scotia population estimate women ages 50-69**)) X** 100

Source: Nova Scotia Breast Screening Program database, NSDoH.



Respondents Age 65+ Who Reported Having Had a Flu Immunization in the Last Year

Definition

The proportion of adults 65 years of age and older who reported they had received an influenza vaccination in the last year.

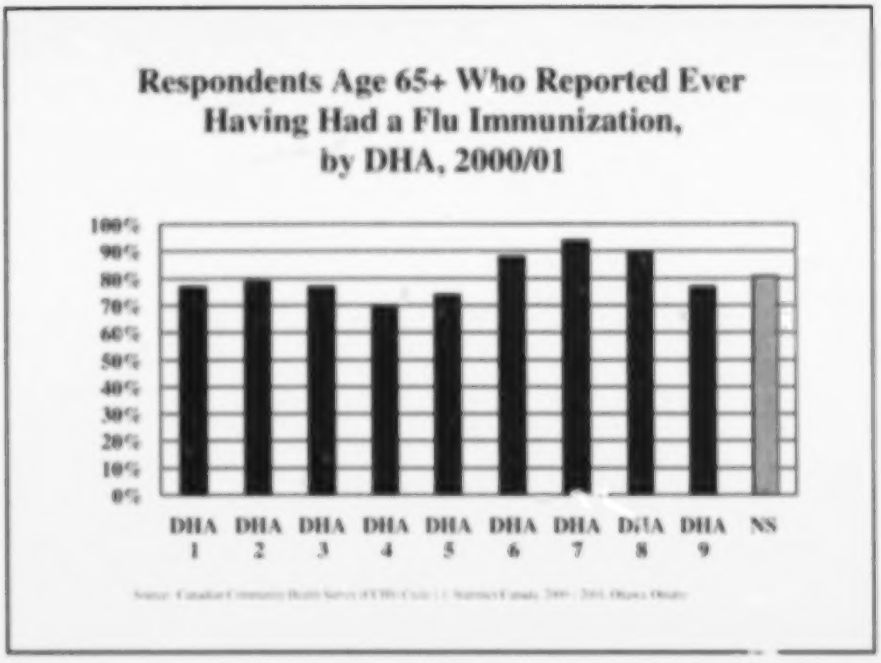
Significance – Rationale and Notes for Interpretation

The *Canadian Consensus Conference on Influenza* (1993) recommended that by the 2000/01 flu season 70% of individuals in high-risk groups (such as those aged 65+) should receive flu shots. Nova Scotia has a comprehensive strategy for promotion of flu immunizations. May 2002 Canadian Community Health Survey data shows 81% Nova Scotia residents aged 65 + reported having had an influenza vaccination at some point in their lives.

Technical Specifications

Calculation: 1. ((The number of respondents who said yes to A: being 65 years of age or older, B: to having received a flu vaccination at some point in their lives and C: to having had that flu vaccination in the last year)/(The total number of respondents who said yes to being 65 years of age or older)) x 100
2. ((The number of respondents who said yes to A: being 65 years of age or older, B: to having received a flu vaccination at some point in their lives)/(The total number of respondents who said yes to A: being 65 years of age or older)) x 100

Source: Canadian Community Health Survey (CCHS) Cycle 1.1, Statistics Canada, 2000 2001, Ottawa, Ontario.



Section 2
Disease Incidence & Chronic Health Conditions

Unlike health promotion and population health indicators, disease incidence indicators tell us how healthy our population currently is and at what rate it is experiencing and dying from disease. Incidence is a measure of the rate at which new cases of disease occur in a population previously without disease. In this section, two types of disease are examined: communicable diseases and cancers.

Often when looking at disease incidence and disease mortality rates, statisticians use a method of analysis called age standardization. Age standardization is a way of looking at the proportion of illness in a specific place and asking, "what would we expect the proportion of illness to be if this place had the same age structure as the rest of Canada?" Therefore, the rates shown do not cite the actual number of observed cases, but the numbers of expected cases in the standard population.

Using this method allows for valid comparisons across different parts of the province/country to see if health problems are actually more serious in one place than in another. Age standardized statistics must be standardized to the same population census data. Data is not comparable if, for instance, some data (for a particular variable) is standardized to 1996 population data and some is standardized to 1991 population data. In this report 1991 population data is used.

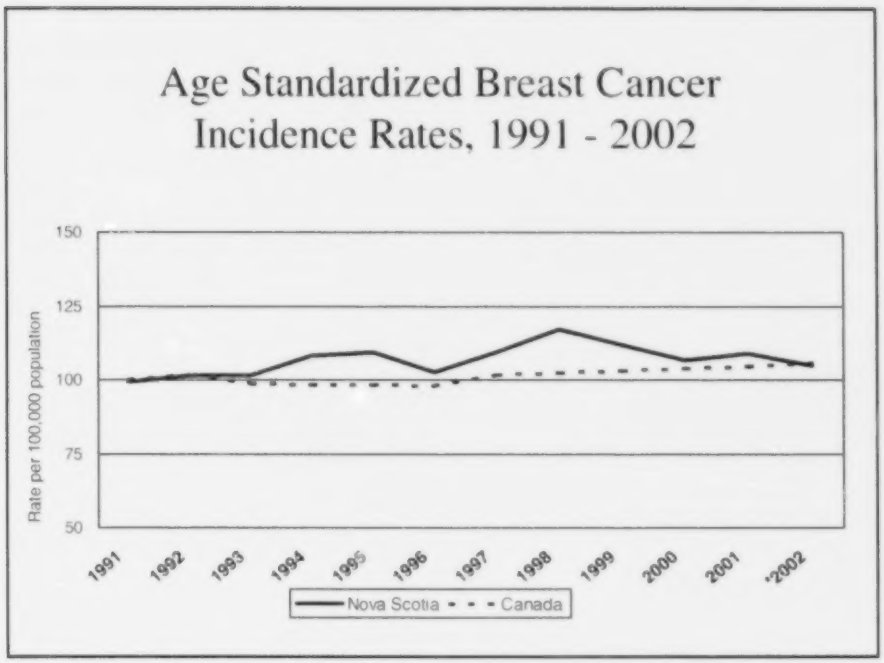
Age-standardized cancer incidence rates measure the appearance of new cases of cancer. This incidence rate is influenced by two main groups of factors: (1) the underlying rate of cancer incidence, which reflects, in part, the prevalence of risk factors such as smoking, and, in turn, the success of primary prevention efforts, and (2) the rate of detection and diagnosis of cancers, which can be influenced by the intensity and effectiveness of cancer screening programs. Unfortunately from the viewpoint of interpreting this indicator, these two factors work in opposite directions. For example, an increase in measured cancer incidence could reflect either deterioration in healthy life style or an improvement in screening. However, this latter kind of "screening artifact" is unlikely to carry on for a long period of time so that generally, a declining incidence of cancer suggests a positive change in population health. This interpretation is being addressed by the addition of staging data to the cancer registry systems. Cancer staging provides information on how advanced (serious) the cancer is at the time of diagnosis.

As a general comment on using incidence figures, there is an increasing awareness that a successful decrease in one disease may simply lead to an

increase in the incidence of some other conditions, with no net benefit. Therefore, when one cause of death or disability is replaced by another, it is important to know if there is a net increase in life span or if there is a significant gap in time between the decrease in mortality for one cause and increased mortality for another. Quality of health during the remaining years is also crucial.

Age-standardized cancer mortality rate trends may indicate long-term success in reducing deaths from these diseases. Lower death rates indicate success in cancer or cardio-vascular disease prevention, detection, and treatment.
More information on cancer incidence and mortality and cancer programs can be obtained at Cancer Care Nova Scotia's website: http://www.cancercare.ns.ca or at the national Cancer Care Society website: www.cancer.ca.

Communicable diseases pass between people through bodily contact, exchange of bodily fluids or gases, or through contact with an infected agent such as food and water. Communicable diseases are often preventable and treatable.
More information on communicable diseases can be obtained through the Nova Scotia Department of Health website: www.gov.ns.ca health or through Health Canada's website: www.hc-sc.gc.ca.



Breast Cancer Incidence Rate

Definition

The reported number of newly diagnosed primary breast cancer cases in a given year per 100,000 population that would have occurred in the standard population if the observed age-specific rates in a given population had occurred in the standard population.

Significance – Rationale and Notes for Interpretation

Incidence rate trends associated with breast cancer can provide important planning information regarding treatment and prevention programs, especially as death from chronic conditions becomes more prevalent.

Technical Specifications

Codes: Malignant neoplasm of the female breast (ICD-9 174), (ICD-10 C50)
Calculation: The age-standardized rate for each cancer site is calculated by multiplying each observed age-specific incidence rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population. (Non-residents of Canada are excluded from calculation)

Source: Canadian Cancer Statistics 2002, National Cancer Institute of Canada

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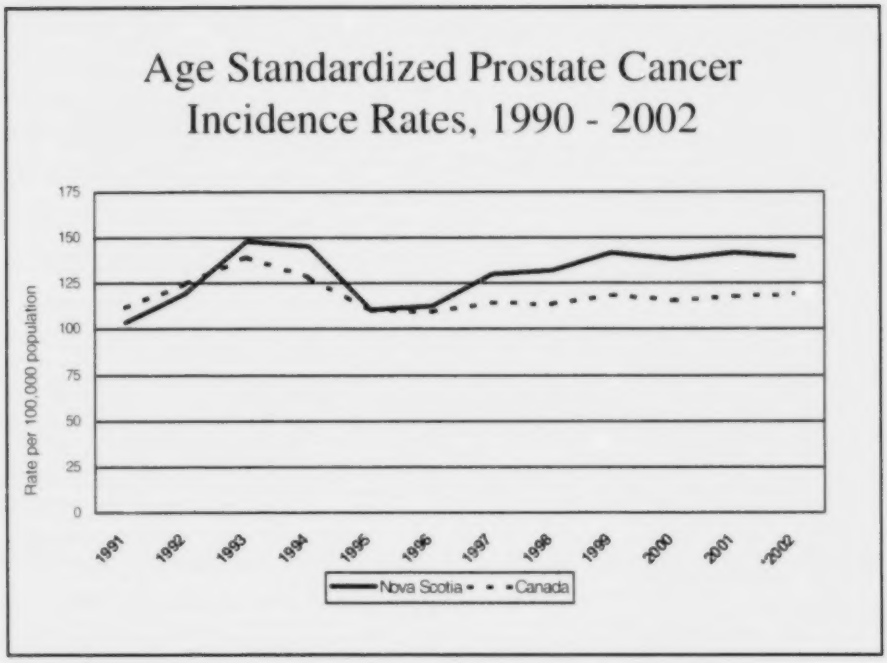
* Estimated Rates



Prostate Cancer Incidence Rate

Definition
The reported number of newly diagnosed primary prostate cancer cases in a given year per 100,000 population, that would have occurred in the standard population if the observed age-specific rates in a given population had occurred in the standard population.

Significance – Rationale and Notes for Interpretation
Incidence rate trends associated with prostate cancer can provide important planning information regarding treatment and prevention programs, especially as death from chronic conditions becomes more prevalent. The risk of prostate cancer increases with age, so it is important for men over 50 to have regular prostate-specific antigen (PSA) tests.

Technical Specifications
Codes: Malignant neoplasm of the prostate (ICD-9 185) (ICD-10 C61)
Calculation: The age-standardized rate for each cancer site is calculated by multiplying each observed age-specific incidence rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991

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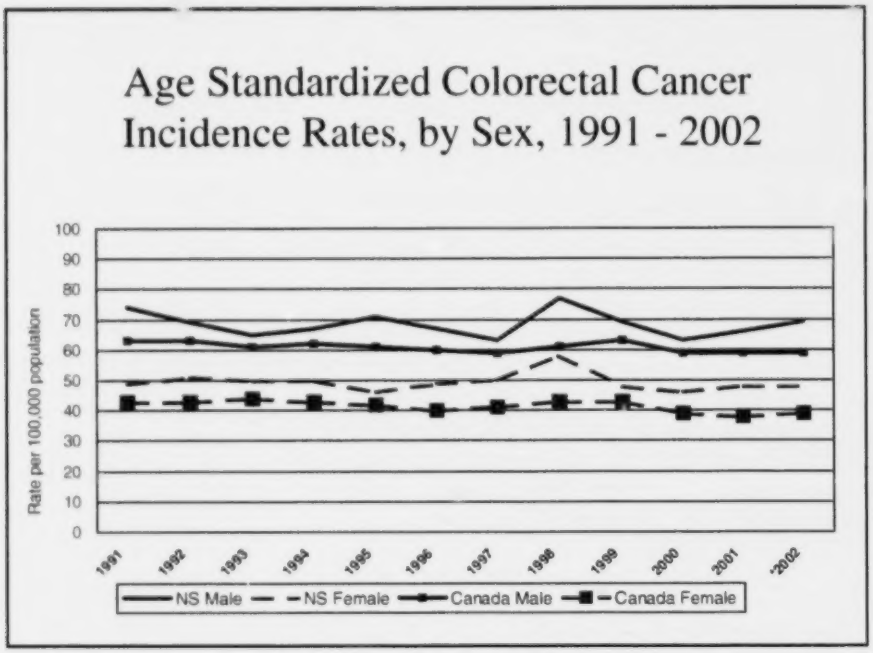
* Estimated Rates

Canadian population is used as the standard population. (Non-residents of Canada are excluded from calculation)

Source: Canadian Cancer Statistics 2002, National Cancer Institute of Canada



Colorectal Cancer Incidence Rate

Definition
The reported number of newly diagnosed primary colorectal cancer cases in a given year per 100,000 population, that would have occurred in the standard population if the observed age-specific rates in a given population had occurred in the standard population.

Significance – Rationale and Notes for Interpretation
Incidence rate trends associated with colorectal cancer can provide important planning information regarding treatment and prevention programs, especially as death from chronic conditions becomes more prevalent.

Technical Specifications
Codes: Malignant neoplasm of the colon/rectum (ICD-9 153-154) (ICD-10 C18, C19, C20)
Calculation: The age-standardized rate for each cancer site is calculated by multiplying each observed age-specific incidence rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population. (Non-residents of Canada are excluded from calculation)

Source: Canadian Cancer Statistics 2002, National Cancer Institute of Canada

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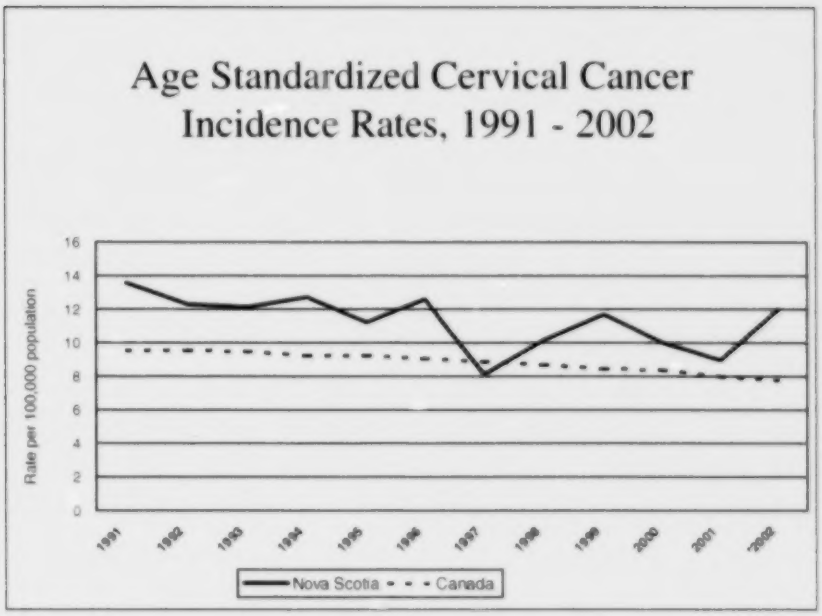
* Estimated Rates



Cervical Cancer Incidence Rate

Definition
The reported number of newly diagnosed primary cervical cancer cases in a given year per 100,000 population, that would have occurred in the standard population if the observed age-specific rates in a given population had occurred in the standard population.

Significance – Rationale and Notes for Interpretation
Incidence rate trends associated with cervical cancer can provide important planning information regarding treatment and prevention programs, especially as death from chronic conditions becomes more prevalent.

Technical Specifications
Codes: Malignant neoplasm of the cervix: (ICD 9 – 180) (ICD-10 C53)
Calculation: The age-standardized rate for each cancer site is calculated by multiplying each observed age-specific incidence rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population.

Source: Canadian Cancer Statistics 2002, National Cancer Institute of Canada

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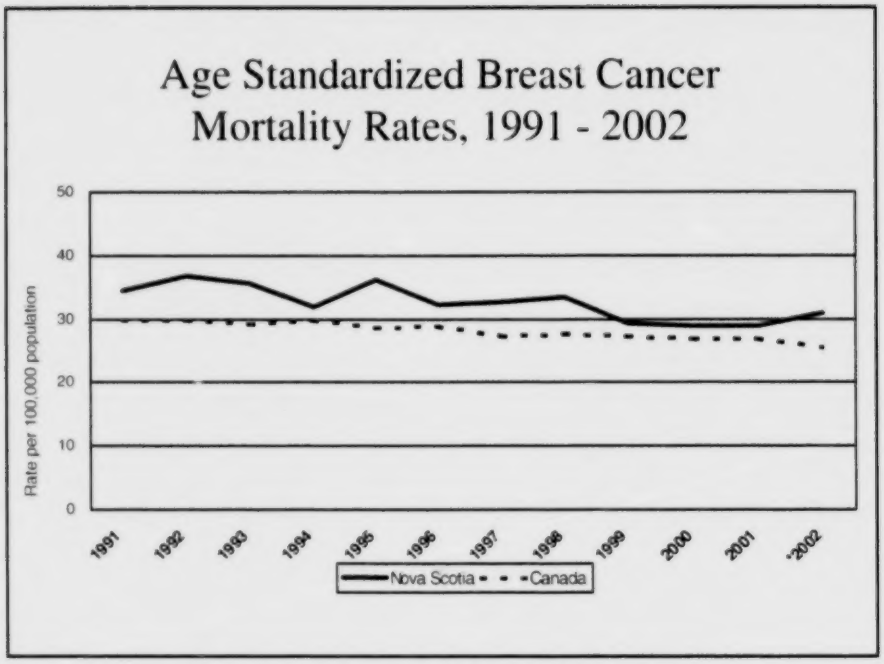
* Estimated Rates



Breast Cancer Mortality Rate

Definition

The reported number of deaths of individuals where the underlying cause of death is breast cancer, per 100,000 population, that would have occurred in the standard population if the observed age-specific rates in a given population had occurred in the standard population.

Significance – Rationale and Notes for Interpretation

Age-standardized cancer trends may indicate long-term success in reducing deaths from these diseases, compared with other provinces and countries. Lower death rates indicate success in cancer prevention, detection, and treatment.

Technical Specifications

Calculation: The age-standardized rate for each cancer site female breast (ICD-9 174 or ICD-10 C50), is calculated by multiplying each observed age-specific death rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population. (Non-residents of Canada are excluded from calculation)

Source: Canadian Cancer Statistics 2002, National Cancer Institute of Canada

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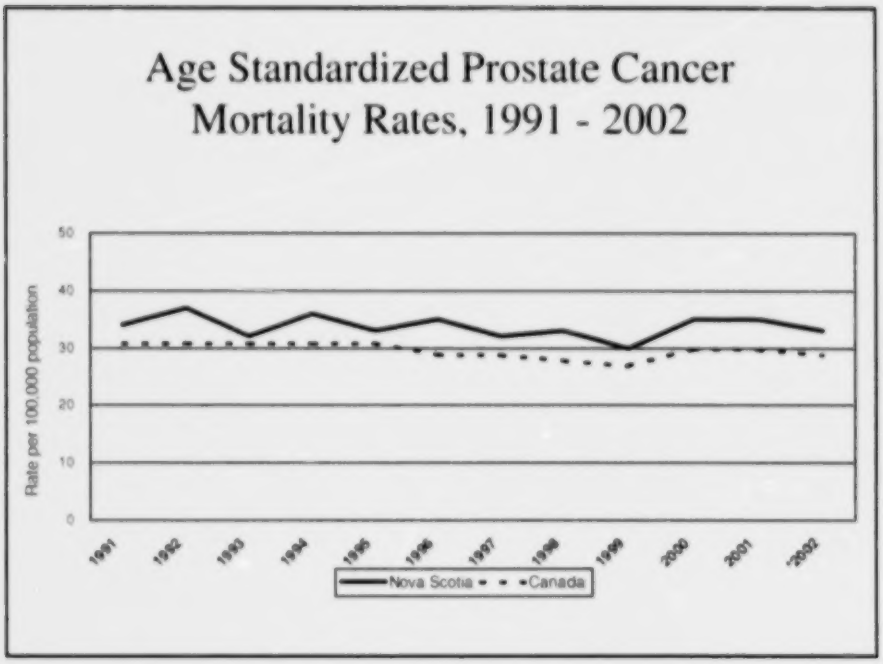
* Estimated Rates



Prostate Cancer Mortality Rate

Definition

The reported number of deaths of individuals where the underlying cause of death is prostate cancer, per 100,000 population, that would have occurred in the standard population if the observed age-specific rates in a given population had occurred in the standard population.

Significance – Rationale and Notes for Interpretation

Age-standardized cancer death rate trends may indicate long-term success in reducing deaths from these diseases, compared with other provinces and countries. Lower death rates indicate success in cancer prevention, detection, and treatment.

Technical Specifications

Calculation: The age-standardized rate for cancer of the prostate (ICD-9 185 or ICD-10 C61) is calculated by multiplying each observed age-specific death rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population. (Non-residents of Canada are excluded from calculation)

Source: Canadian Cancer Statistics 2002, National Cancer Institute of Canada

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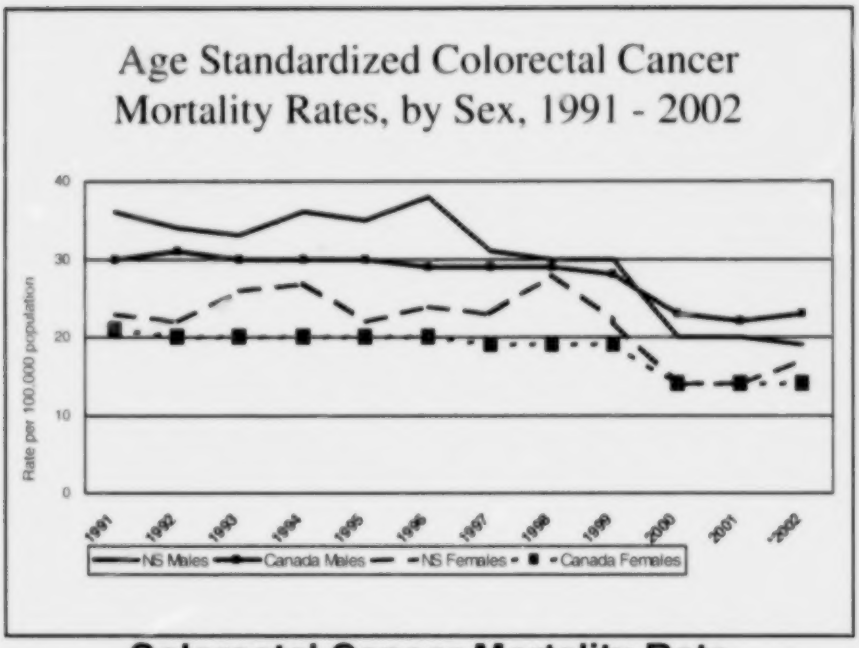
* Estimated Rates



Colorectal Cancer Mortality Rate

Definition

The reported number of deaths of individuals where the underlying cause of death is colorectal cancer, per 100,000 population, that would have occurred in the standard population if the observed age-specific rates in a given population had occurred in the standard population.

Significance – Rationale and Notes for Interpretation

Age-standardized cancer death rate trends may indicate long-term success in reducing deaths from these diseases, compared with other provinces and countries. Lower death rates indicate success in cancer prevention, detection, and treatment.

Technical Specifications

Calculation: The age-standardized rate for cancer of the colon/rectum (ICD-9 153-154 or ICD-10 C18-20) is calculated by multiplying each observed age-specific death rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population. (Non-residents of Canada are excluded from calculation)

Source: Canadian Cancer Statistics 2002, National Cancer Institute of Canada

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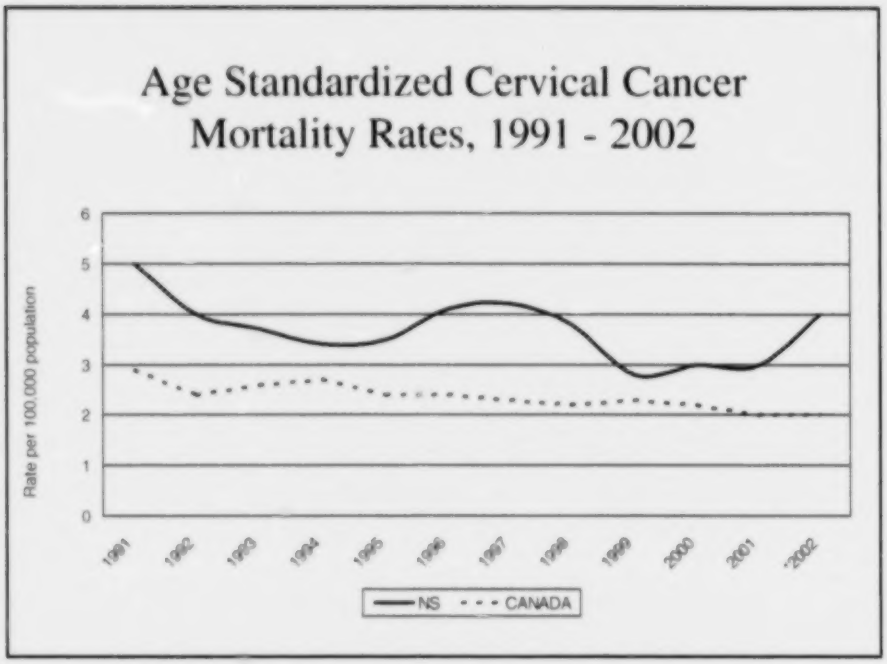
* Estimated Rates



Cervical Cancer Mortality Rate

Definition

The reported number of deaths of individuals where the underlying cause of death is cervical cancer, per 100,000 population, that would have occurred in the standard population if the actual age-specific rates observed in a given population had occurred in the standard population.

Significance – Rationale and Notes for Interpretation

Age-standardized cancer death rate trends may indicate long-term success in reducing deaths from these diseases, compared with other provinces and countries. Lower death rates indicate success in cancer prevention, detection, and treatment.

Technical Specifications

Calculation: The age-standardized rate for cancer site cervical (ICD-9 180 or ICD-10 C53), is calculated by multiplying each observed age-specific death rate by the standard population in the corresponding age-group, summing the results, multiplying the sum by 100,000 and then dividing the product by the total standard population. The 1991 Canadian population is used as the standard population. (Non-residents of Canada are excluded from calculation)

Source: Cancer Bureau, LCDC, Health Canada

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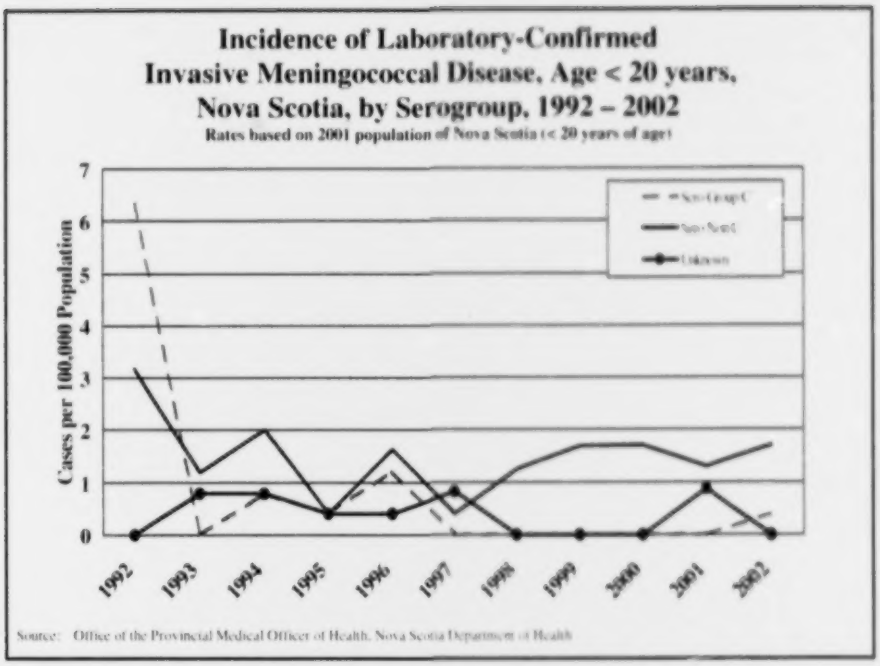
*Estimated Rates



Incidence of Invasive Meningococcal Disease

Definition

The rate per 100,000 population of reported new cases of invasive meningococcal disease reported annually in individuals less than 20 years of age in Nova Scotia. A confirmed case is defined as invasive disease (e.g. meningitis and /or Septicaemia with possible progression to purpura fulminans, shock, and death) with laboratory confirmation of infection through isolation of *Neisseria meningitidis* from a normally sterile site (blood, cerebrospinal fluid, joint, pleural or pericardial fluid) or demonstration of *N. meningitidis* antigen in cerebrospinal fluid.[2]

Significance – Rationale and Notes for Interpretation

Epidemiological data on invasive meningococcal disease enables evidence-based planning for immunization programs. The decreasing annual incidence of laboratory-confirmed cases of invasive meningococcal disease in Nova Scotia has reflected a similar trend in Canadian rates over the past decade. Following an outbreak in 1992, overall incidence in Nova Scotia has remained consistently low and since 1998, has averaged 2 cases per 100,000 annually in those less than 20 years of age. Incidence has been shown to be highest among young

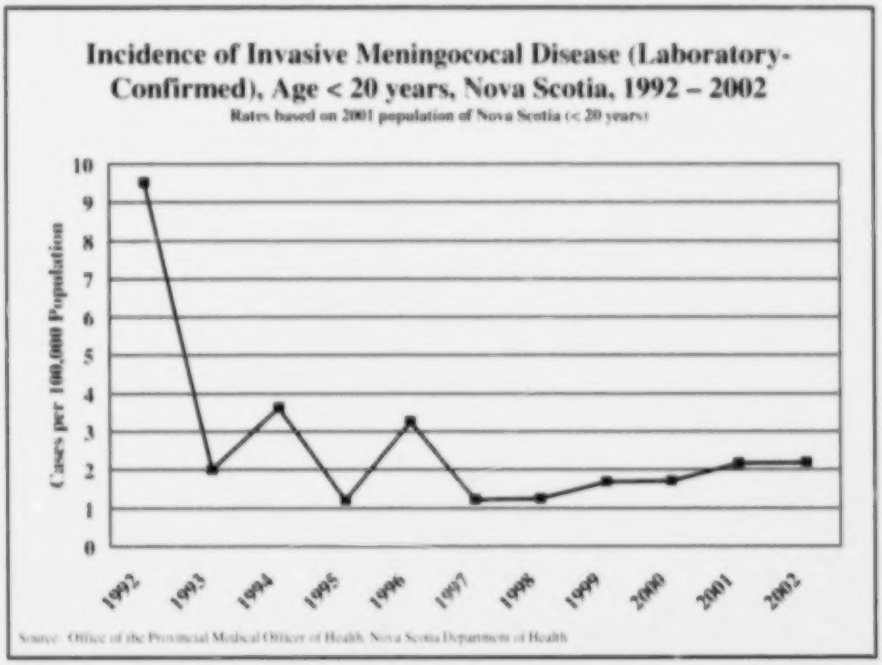
[2] Advisory Committee on Epidemiology and Division of Disease Surveillance, Bureau of Infectious Diseases, Laboratory Centre for Disease Control, Health Protection Branch, Health Canada. Case Definitions for Diseases Under National Surveillance. Minister of Public Works and Government Services Canada, 2000.

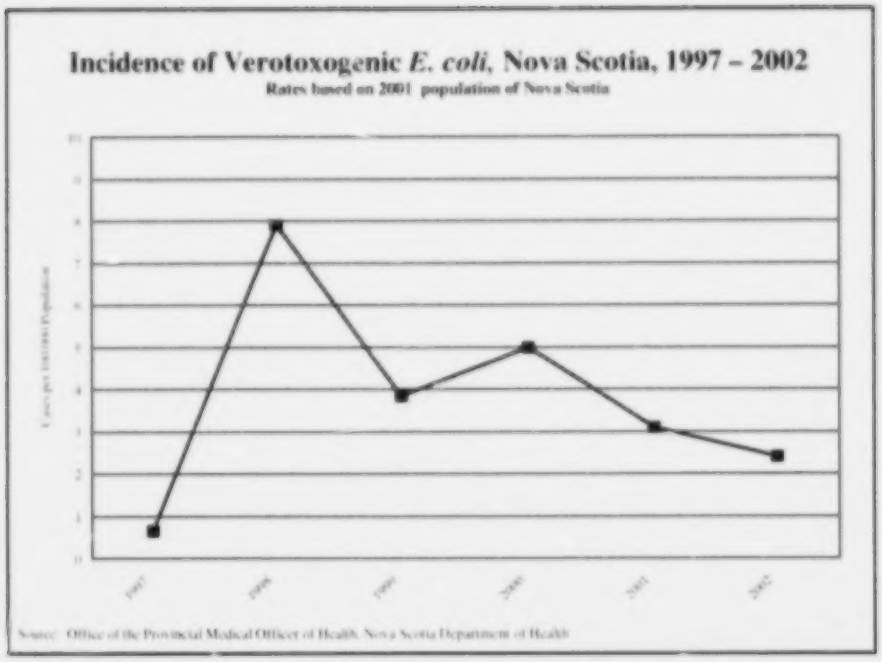
children and to decline with increasing age. Because of this, immunization programs generally focus on those less than 20 years of age.

Technical Specifications

Numerator: Total number of cases < 20 years of age
Denominator: Total population < 20 years of age in Nova Scotia
Calculation: Numerator/denominator x 100,000

Source: Notifiable Disease Reporting and Enhanced Surveillance System, Health Canada, NS Data: Office of the Provincial Medical Officer of Health, NS Department of Health




Incidence of Verotoxogenic E. coli, Nova Scotia, 1997 – 2002
Rates based on 2001 population of Nova Scotia
Source: Office of the Provincial Medical Officer of Health, Nova Scotia Department of Health

Incidence of Verotoxigenic Escherichia coli Infection

Definition

The rate per 100,000 of reported new cases of verotoxigenic *Escherichia coli* infection reported annually in Nova Scotia. A confirmed case is defined as laboratory confirmation of *E. coli* infection with or without symptoms including isolation of verotoxin producing *Escherichia coli* or other toxigenic strains from an appropriate clinical specimen.[2]

Significance – Rationale and Notes for Interpretation

Escherichia coli 0157:H7 (verotoxigenic *E. coli*) most often acquired through consumption of undercooked, contaminated ground beef has become an emerging cause of food borne illness.[3] Following an increase from <1 case per 100,000 in 1997 to approximately 8 cases per 100,000 in 1998, the rates of new laboratory-confirmed cases of verotoxigenic *E. coli* in Nova Scotia have remained relatively stable over the years 1999, 2000, and 2001 years with an average annual incidence of 4 cases per 100,000 population. The rates continued to

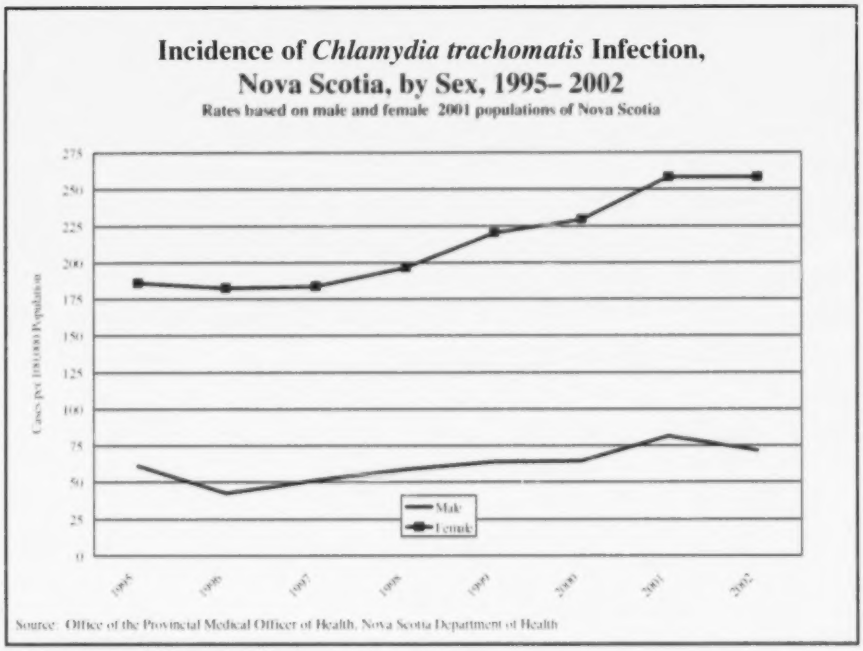
[2] Advisory Committee on Epidemiology and Division of Disease Surveillance, Bureau of Infectious Diseases, Laboratory Centre for Disease Control, Health Protection Branch, Health Canada. Case Definitions for Diseases Under National Surveillance. Minister of Public Works and Government Services Canada, 2000

[3] Health Canada. Notifiable Diseases On –Line. http://www.cythera.ic.gc.ca/dsol/ndis/index_e.html

decline, in 2002, to a rate of 2.4 per 100,000 population, reflecting the similarly low rates of disease in Canada.

Technical Specifications
Numerator: Number of reported cases of Verotoxigenic *E. coli*
Denominator: Total population of Nova Scotia
Calculation: Numerator/denominator x 100,000

Source: Office of the Provincial Medical Officer of Health, NS Department of Health


Incidence of Chlamydia trachomatis Infection,
Nova Scotia, by Sex, 1995– 2002
Rates based on male and female 2001 populations of Nova Scotia
Male
Female
Source: Office of the Provincial Medical Officer of Health, Nova Scotia Department of Health

Incidence of Chlamydia Trachomatis Infection

Definition

The rate per 100,000 of new cases of Chlamydial infection (genital) reported annually in Nova Scotia. A confirmed case is defined as laboratory confirmation of *Chlamydia Trachomatis* infection as detected using appropriate laboratory techniques in genitourinary specimens.[4]

Significance – Rationale and Notes for Interpretation

Chlamydia is a sexually transmitted disease, which may result in female infertility and ectopic pregnancy. Rates of infection can be used as an indicator for the effectiveness of prevention programs. The number of reported cases of genital Chlamydia (*Chlamydia Trachomatis*) infection in Canada showed a steady decline over the period 1992 (year became nationally notifiable) to 1997 followed by a 14% increase from 1997 to 1998 (27% and 10% increase among males and females respectively). A more sensitive laboratory testing method is thought to be one factor responsible for this increase, particularly for males.[5]

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[4] Advisory Committee on Epidemiology and Division of Disease Surveillance, Bureau of Infectious Diseases, Laboratory Centre for Disease Control, Health Protection Branch, Health Canada. Case Definitions for Diseases Under National Surveillance. Minister of Public Works and Government Services Canada, 2000

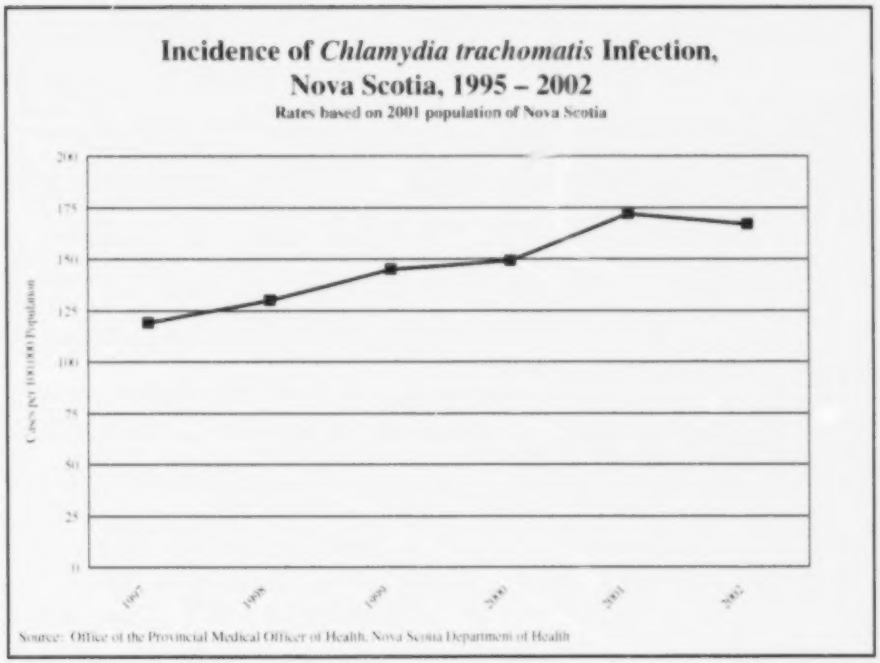
[5] 1998/1999 Canadian Sexually Transmitted Diseases (STD) Surveillance Report. Canada Communicable Disease Report. Supplement. Division of STD Prevention and Control. Bureau of HIV/AIDS, STD and TB. Centre for Infectious Disease Prevention. Health Canada. October, 2000. Volume 26S6: 2.

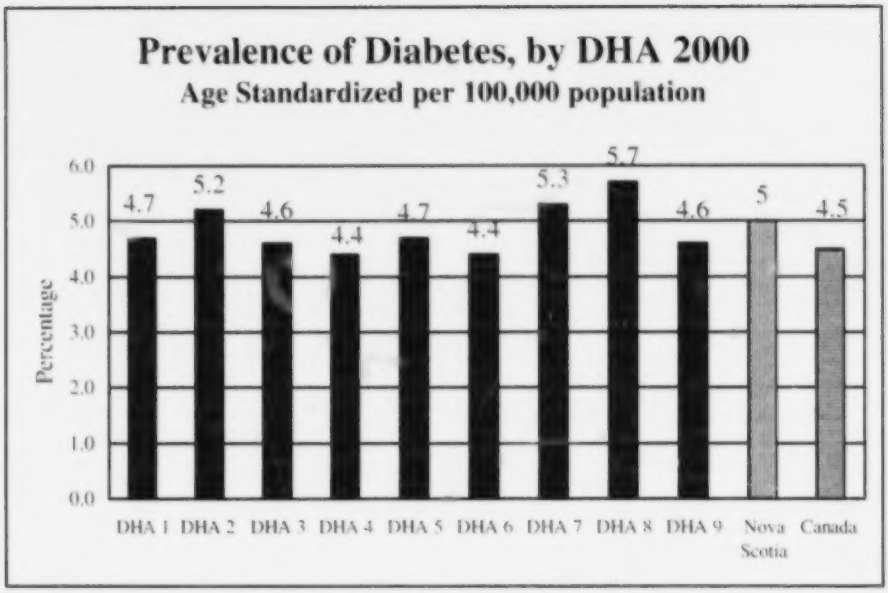
In Nova Scotia, incidence rates for genital *Chlamydia* in females increased over the period of 1997 to 2001 and far exceeded the rates in males in both the 15-19 and 20-24 year age groups.

Technical Specifications

Numerator: Reported cases of genital *Chlamydia* infection
Denominator: Total population (and by sex) of Nova Scotia
Calculation: Numerator/denominator x 100,000

Source: Notifiable Disease Reports; NS Data: Office of the Provincial Medical Officer of Health, NS Department of Health





Prevalence of Diabetes

Percentage of Population with the disease (Aged 20 + Years)

Definition

This indicator measures the age standardized prevalence rate of diabetes mellitus for Nova Scotias of the age 20 or over. Prevalence rates were calculated using the current diabetes case definition employed by the National Diabetes Surveillance System (NDSS).

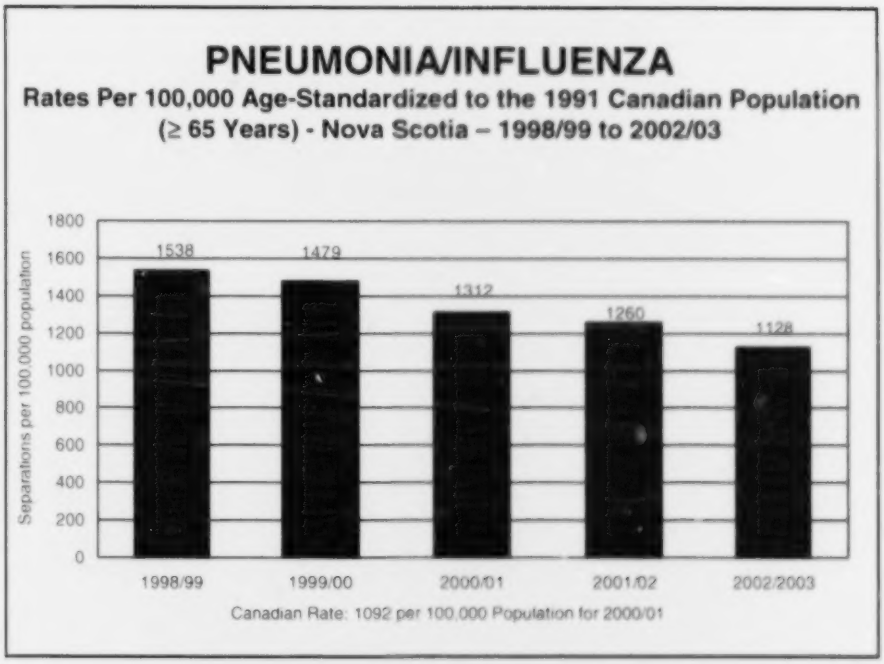
Significance - Rationale and Notes for Interpretation

The goal of the Diabetes Care Program of Nova Scotia (DCPNS) is to improve the standards of care for people with diabetes, improve continuing education access for health care professionals and physicians directly involved in the delivery of diabetes care and education, and the collection and analysis of information related to diabetes and diabetes education in Nova Scotia. Diabetes has been diagnosed in approximately 5% of the adult population in Nova Scotia rising to 14% in the age group over 65 years. The aging population along with increasing rates of inactivity, poor nutrition, and overweight/obesity are linked to the projected doubling of the provincial prevalence by 2025. Strong support should be given to risk factor reduction through both targeted and population health initiatives aimed at the broader determinants of health.

Technical Specifications

Calculation: **(**The total number of people ages 20 and above who have been diagnosed with diabetes during a fiscal year/ the yearly Nova Scotia population estimate ages 20 and above**) X** 100 per fiscal year.

Source: Diabetes Care Program of Nova Scotia 2000/2001 Statistics, Halifax, NS.



Pneumonia/ Influenza

Definition
Age standardized acute care hospitalization rate for pneumonia and influenza patients aged 65 and over.

Significance – Rationale and Notes for Interpretation
This indicator, which shows the incidence of hospitalization due to pneumonia or influenza, attempts to reflect the burden of illness due to pneumonia and influenza, a portion of which may be preventable through influenza and pneumococcal immunization programs. High rates of hospital admission for preventable pneumonia and influenza may suggest a problem with access to immunization or may reflect limited utilization or access to primary care services.

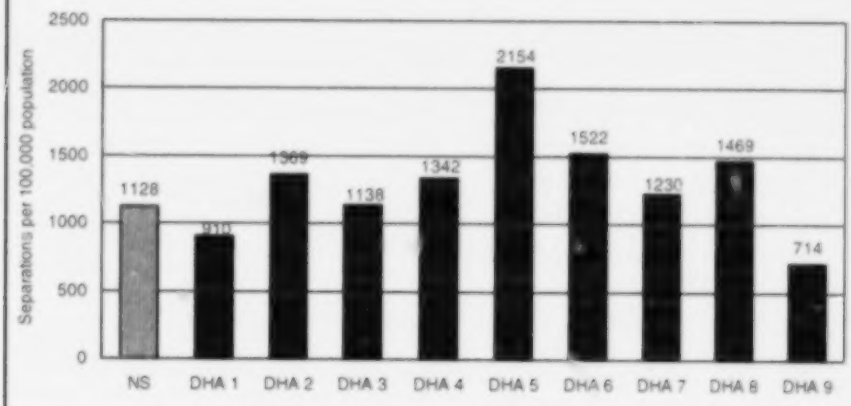
Technical Specifications
Calculation: **((**The number of hospital discharges with a most responsible diagnosis of ICD-10-CA codes J10 to J18 (2001-2002/03) & ICD 9 CM codes 480-487 (for 1998-2000/01) per District **/** the population per District**) x (**Standardizing Process**)) X** 100,000 (excluding Nova Scotia Hospital.)

Source: NSDoH CIHI DAD 1995/96 to 2002/03

PNEUMONIA/INFLUENZA

Rates Per 100,000 Age-Standardized to the 1991 Canadian Population (≥ 65 Years) - Nova Scotia 2002/03

by DHA of Residence



Section 3
Surgical Interventions

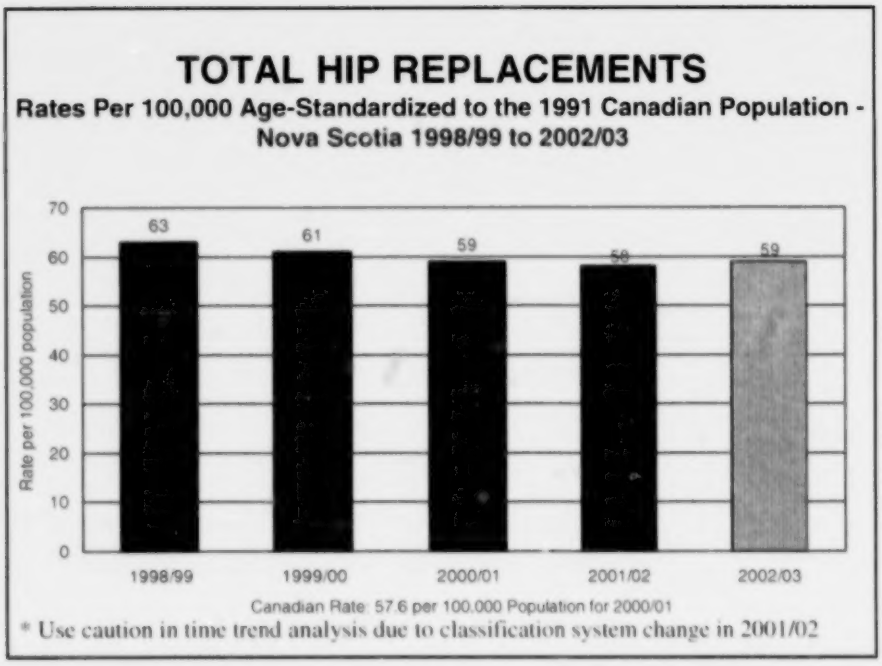
Often, as a result of disease, surgical interventions are required as part of a care plan. Measuring the number of surgical interventions performed provides an indication of accessibility, health care system responsiveness, service provision, and disease incidence.

Surgical interventions are analyzed using age-standardized data. Age standardization is a way of looking at the proportion of surgical interventions in a specific place and asking, "what would we expect the proportion of interventions be to be if this place had the same age structure as the rest of Canada?" The rates shown therefore do not reflect the actual number of observed cases, but the numbers of expected cases in the standard population.

By using this method we can make valid comparisons of surgery rates across different parts of the province/country. These data must be standardized to the same population census data. Data is not comparable if, for instance, some data is standardized to 1996 population data and some is standardized to 1991 population data.

In April 2001, a new classification system for capturing diseases and clinical interventions, ICD-10-CA/ CCI, was implemented by CIHI. The ICD-10-CA is the Canadian modification of the ICD-10 used by the World Health Organization (WHO). The CCI or Canadian Classification of Health Interventions was developed by CIHI. Some indicators may show significant changes in time-trend data from the years prior to the introduction of the new classification system in 2001/02. The CCI classification system combines some procedures into one code whereas in the previous classification system, ICD-9 CM, more than one code was often used to describe the intervention. Caution must be used in interpreting trend data between these classification systems.

Please note that all results only reflect surgeries performed in Nova Scotia hospitals.



Total Hip Replacements

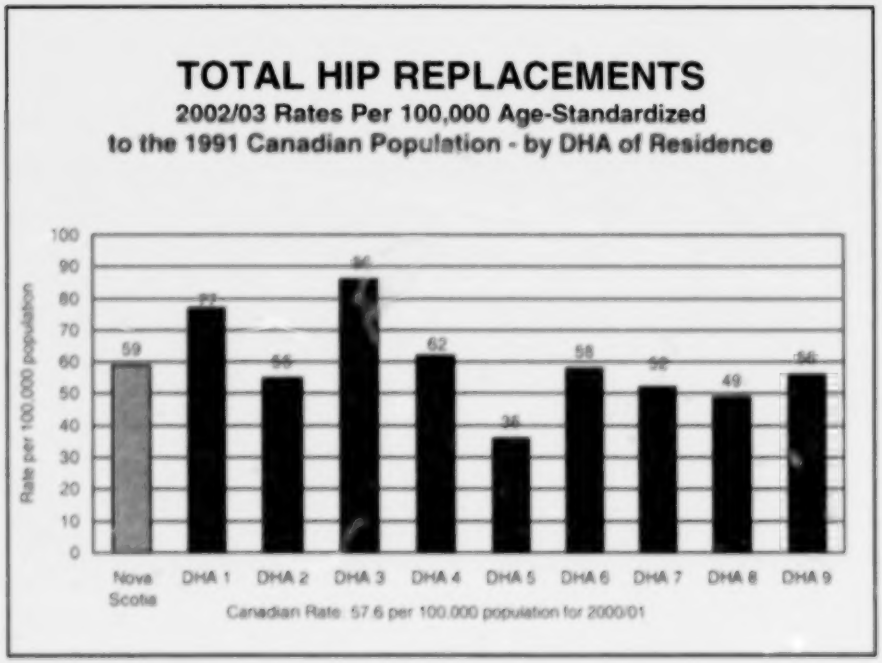
Definition
Surgical removal of the hip joint with replacement by a synthetic hip joint.

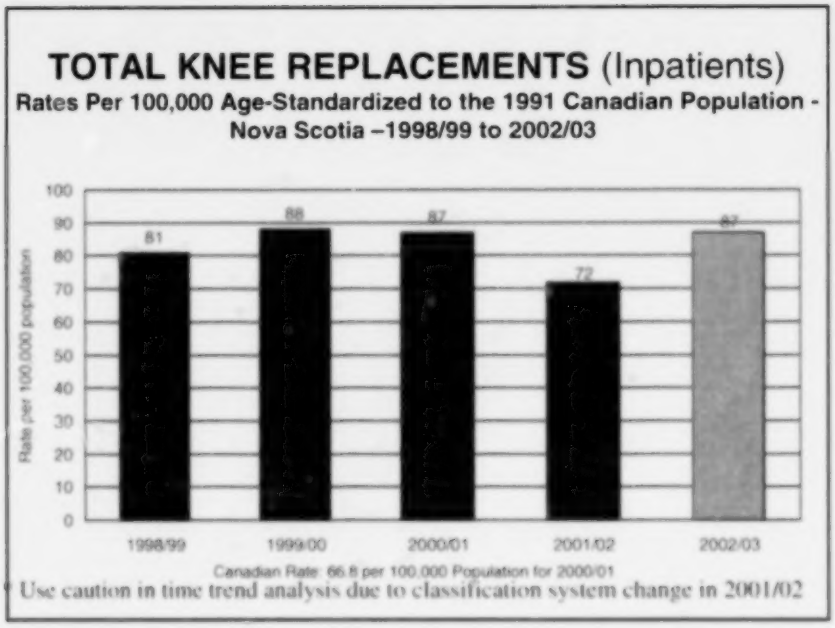
Significance – Rationale and Notes for Interpretation
The intended outcome of most elective surgery is improved health-related quality of life. Increases in hip replacements may reflect increased access to orthopedic care and result in improved population health status or could reflect bone degeneration in the population. Over 94% of those receiving a hip replacement reported significant improvement in pain, stiffness and overall functioning.[6]

Technical Specifications
Calculation: Using CCI (Canadian Classification of Health Interventions) codes 1.VA53.53-LA-PN^ and 1.VA53-PN-PN^. **((**The number of total hip replacements performed as principal intervention per district of residence**)/(**the population for the district**) X** Standardizing Process**) X**100,000.

Source: Nova Scotia Department of Health, Canadian Institute for Health Information Discharge Abstract Database, NS PIRC Report

[6] as reflected in SF-36 and WOMAC results. Reporting to Nova Scotians on Comparable Health and Health Systems Indicators, 2001


TOTAL HIP REPLACEMENTS
2002/03 Rates Per 100,000 Age-Standardized
to the 1991 Canadian Population - by DHA of Residence
Rate per 100,000 population
100
90
80
70
60
50
40
30
20
10
0
59
77
55
86
62
36
58
52
49
56
Nova Scotia
DHA 1
DHA 2
DHA 3
DHA 4
DHA 5
DHA 6
DHA 7
DHA 8
DHA 9
Canadian Rate: 57.6 per 100,000 population for 2000/01



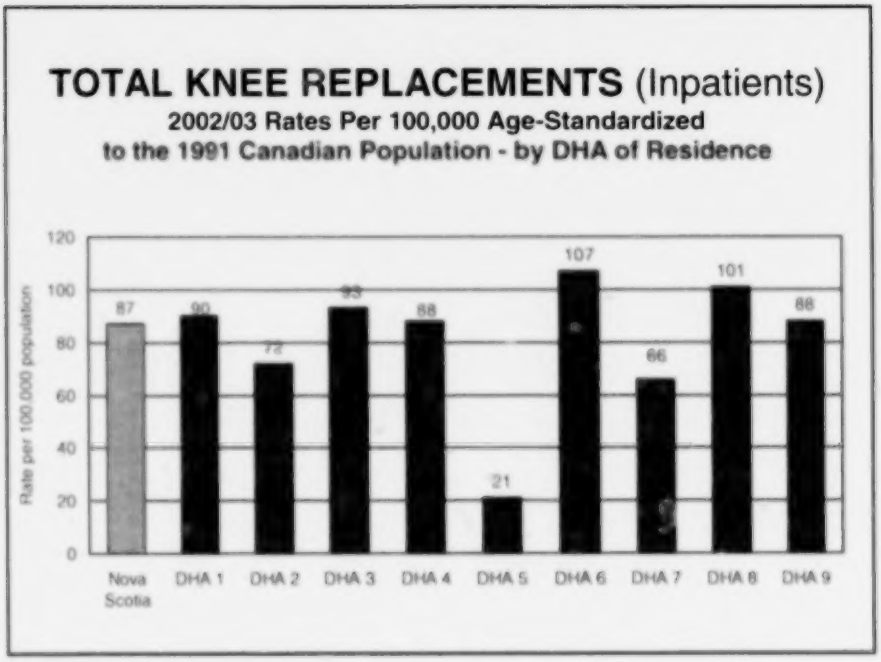
Total Knee Replacements

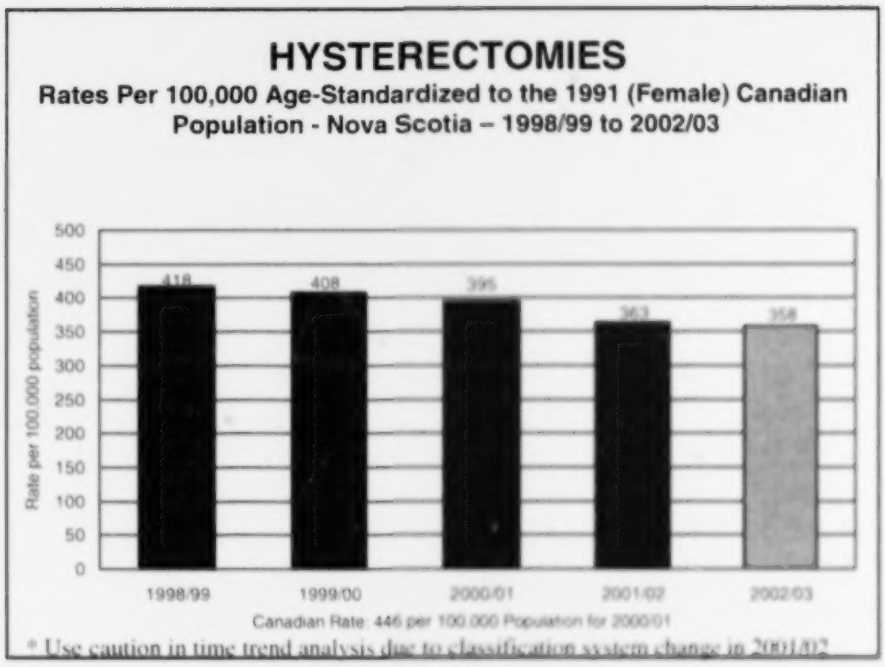
Definition
Surgical removal of the entire knee joint with replacement by a synthetic knee joint.

Significance – Rationale and Notes for Interpretation
The intended outcome of most elective surgery is improved health-related quality of life. Increases in knee replacements may reflect increased access to orthopedic care and result in improved population health status or may reflect bone degeneration in the population.

Technical Specifications
Calculation: Using CCI (Canadian Classification of Health Interventions) code 1.VG.53^^. **((**The number of total knee replacements as principal interventions per District of residence**)/(**the population for the District**) X** Standardizing Process**) X** 100,000.

Source: Nova Scotia Department of Health, Canadian Institute for Health Information Discharge Abstract Database, NS PIRC Report


TOTAL KNEE REPLACEMENTS (Inpatients)
2002/03 Rates Per 100,000 Age-Standardized
to the 1991 Canadian Population - by DHA of Residence
Rate per 100,000 population
120
100
80
60
40
20
0
87
90
72
93
88
21
107
66
101
88
Nova Scotia
DHA 1
DHA 2
DHA 3
DHA 4
DHA 5
DHA 6
DHA 7
DHA 8
DHA 9



Hysterectomies

Definition
Surgical removal of the uterus.

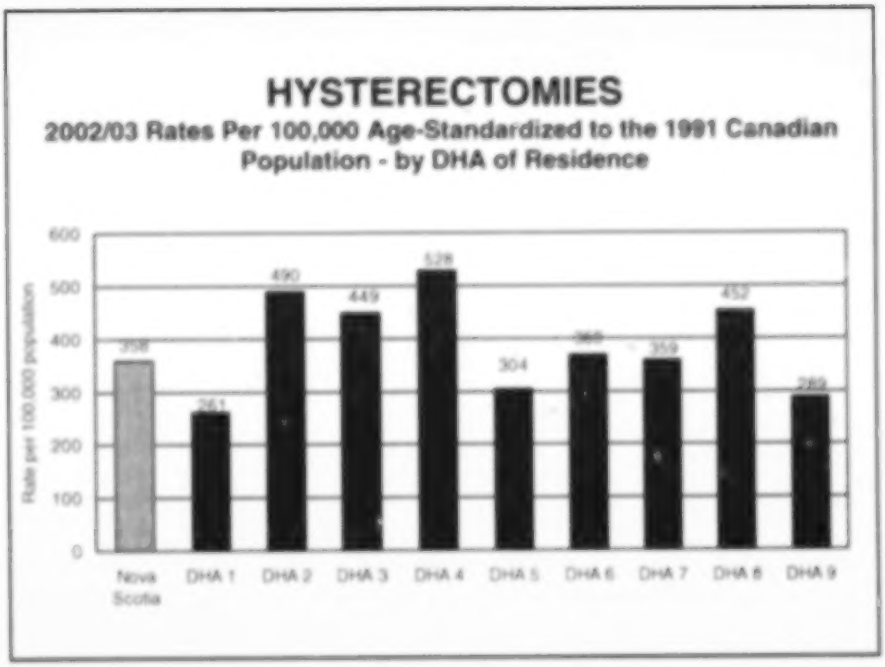
Significance – Rationale and Notes for Interpretation
Medical debate surrounds the need for hysterectomy procedures for reasons other than cancer. Traditionally, hysterectomy procedures have also been used for the treatment of diseases such as fibroids and menorrhagia. With new treatment alternatives, the need for hysterectomies to be performed for cancer treatments should decrease. Canada has one of the highest rates of hysterectomy procedures in the world, second only to the United States. Differences in rates often reflect the debate over appropriate use of this procedure and in physician practices.

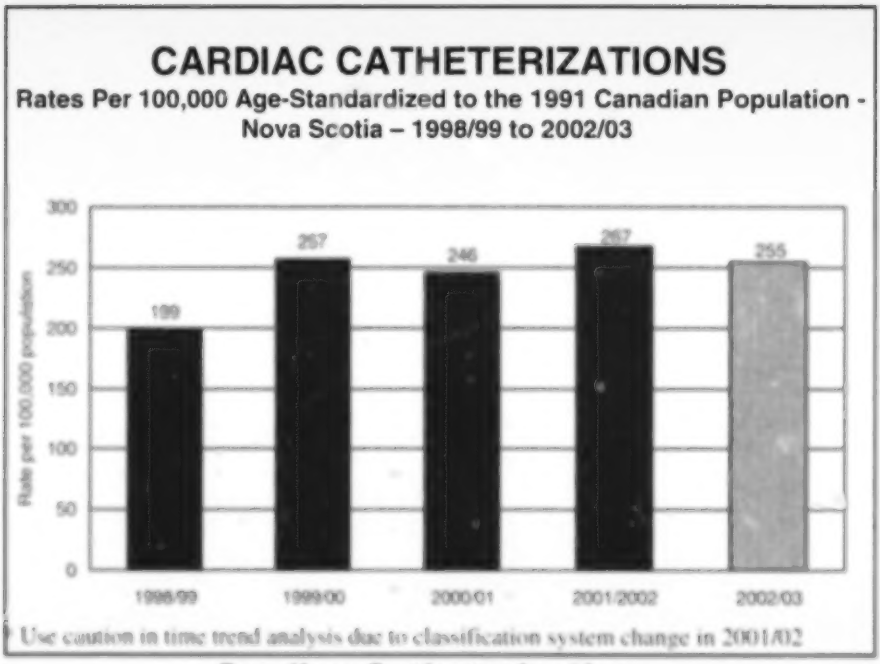
Technical Specifications
Calculation: Using CCI (Canadian Classification of Health Interventions) codes 1.RM.89.^^ and 1.RM.91.^^ for total and radical hysterectomies. **((**The number of hysterectomies performed as principal interventions per District of residence**)/(**the population estimate per District**) X** Standardizing Process**) X** 100, 00.

Source: Nova Scotia Department of Health, Canadian Institute for Health Information Discharge Abstract Database

Disclosures

Excludes: Subtotal and partial hysterectomies





Cardiac Catheterizations

Definition

The insertion of a cardiac catheter into the right or left heart chamber for the detection of a cardiac abnormality.

Significance – Rationale and Notes for Interpretation

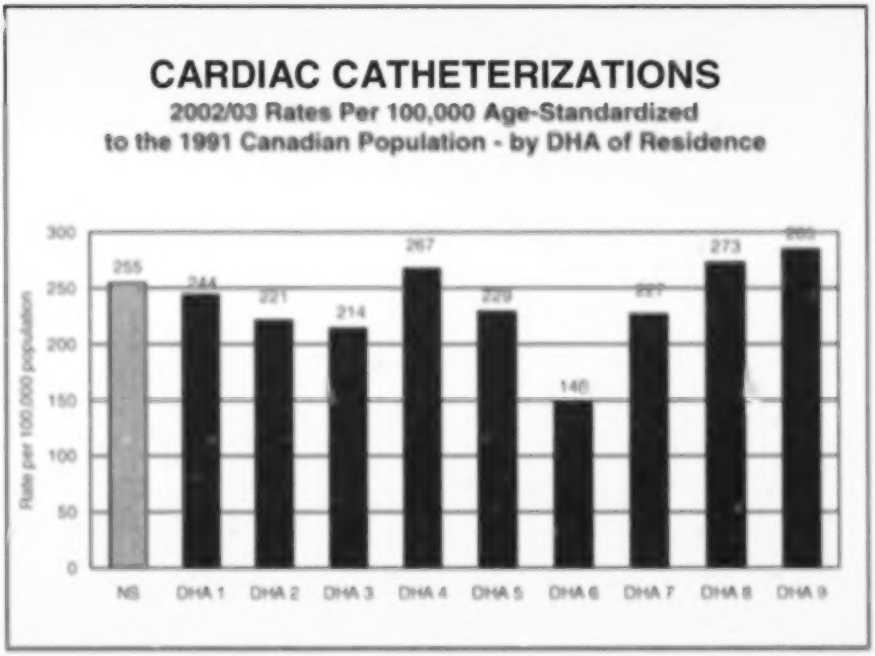
Cardiac catheterizations are a diagnostic procedure used for determining heart disease. Measuring the number of cardiac catheterizations performed provides an indication of how many people in the population are experiencing symptoms of heart disease and having diagnostic procedures performed to determine the cause of symptoms. Provincially, age standardized cardiac catheterization rates have increased from 199 per 100,000 in 1998/99 to a high of 267 per 100,000 in 2001/02. The increase in 1999/00 is partially due to improved reporting practices at the QEII. There was a slight decrease to 246 per 100,000 in 2000/01 and a rise in 2001/02. The number of catheterizations by DHA of residence ranges from an age standardized high of 285 per 100,000 for DHA 9 to an age standardized low of 148 in DHA 6.

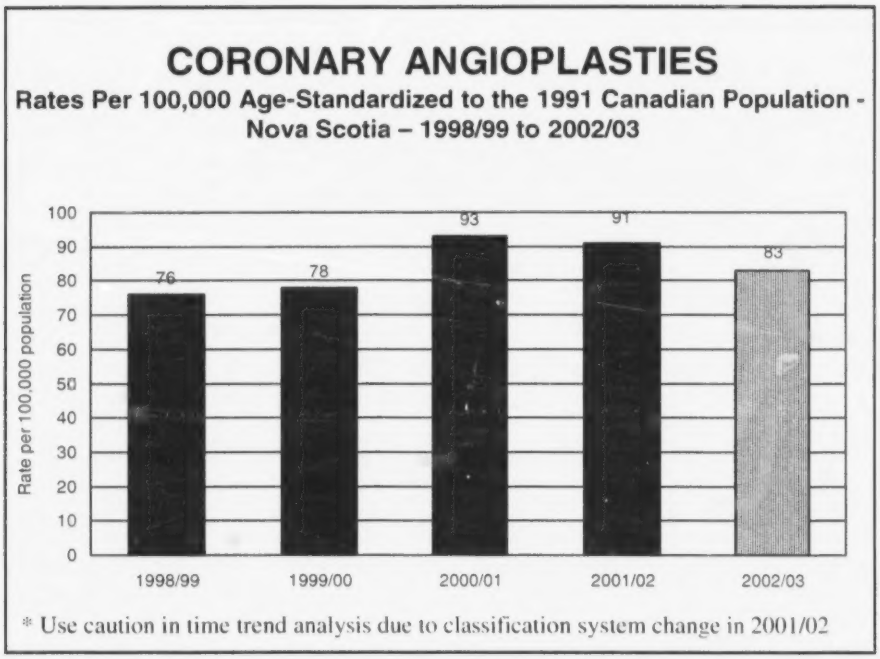
Technical Specifications

Calculation: Using CCI principal intervention code 3.IP.10^^

1. ((The number of cardiac catheterizations done as principal intervention)/(the population for the province) X Standardizing Process) **X** 100,000
2. ((The number of cardiac catheterizations done as principal intervention per District)/(the population estimate per district) X Standardizing Process) **X** 100,000

Source: NSDoH CIHI DAD 1995/96 to 2002/03.





Coronary Angioplasties

Definition

Dilation of an obstructed coronary artery or the procedural removal of a thickened coronary arterial intima (using a balloon-tipped catheter), inserted through the femoral or other artery, with or without infusion of a thrombus-destroying substance.

Significance – Rationale and Notes for Interpretation

Coronary angioplasties are used to prevent future heart complications (for example heart attack), or for a therapeutic intervention to restore function post heart attack, and may be representative of patients' access to care, as well as adequacy of early diagnosis and treatment. Angioplasties have increased from a rate of 76 per 100,000 in 1998/99 to 91 per 100,000 in 2001/02, but back down in 2002/03 to 83 per 100,000. In 2002/03 the rates per DHA range from a high of 95 per 100,000 in DHA 8 to a low of 47 per 100,000 in DHA 6.

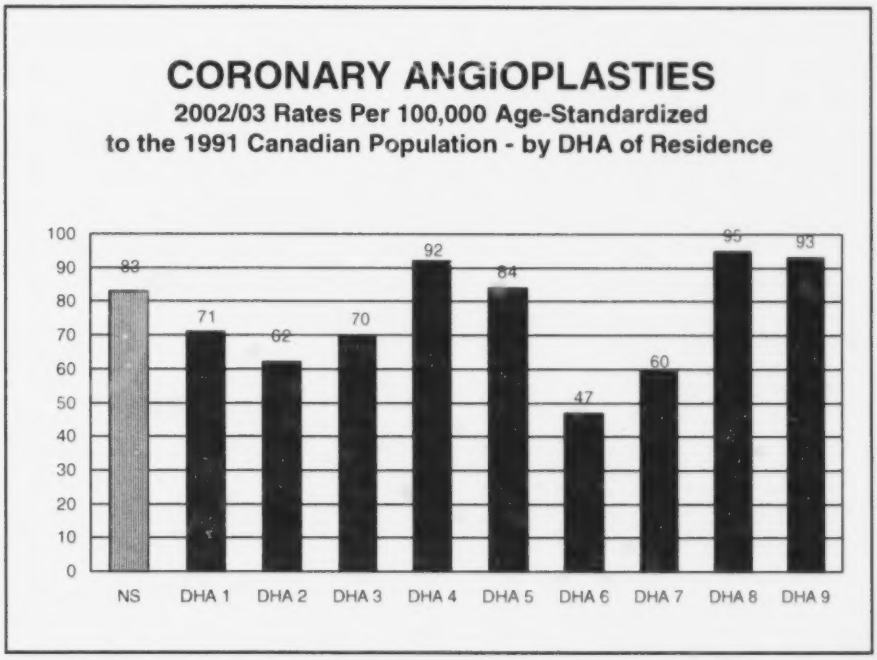
Technical Specifications

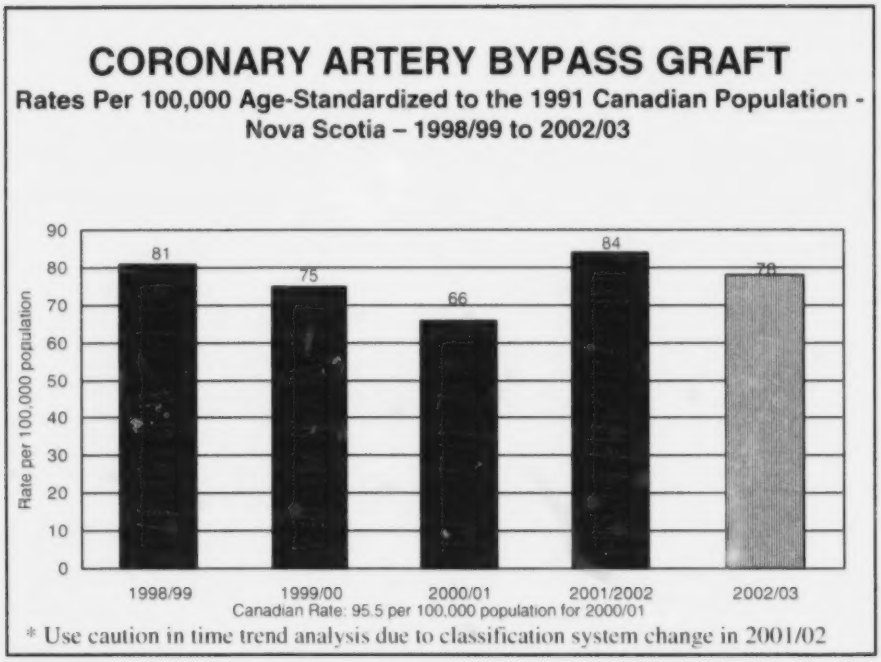
Calculation: Principal intervention CCI code 1.IJ.50.^^ used.

1. **((**The number of coronary angioplasties done as principal intervention/the population for the province**)** X Standardizing Process**))** X 100,000

2. **((**The number of coronary angioplasties performed as principal intervention per District **/** the population estimate per District**)** **X** Standardizing Process**)** **X** 100,000.

Source: Nova Scotia Department of Health, Canadian Institute for Health Information Discharge Abstract Database, 1995/96 – 2002/03





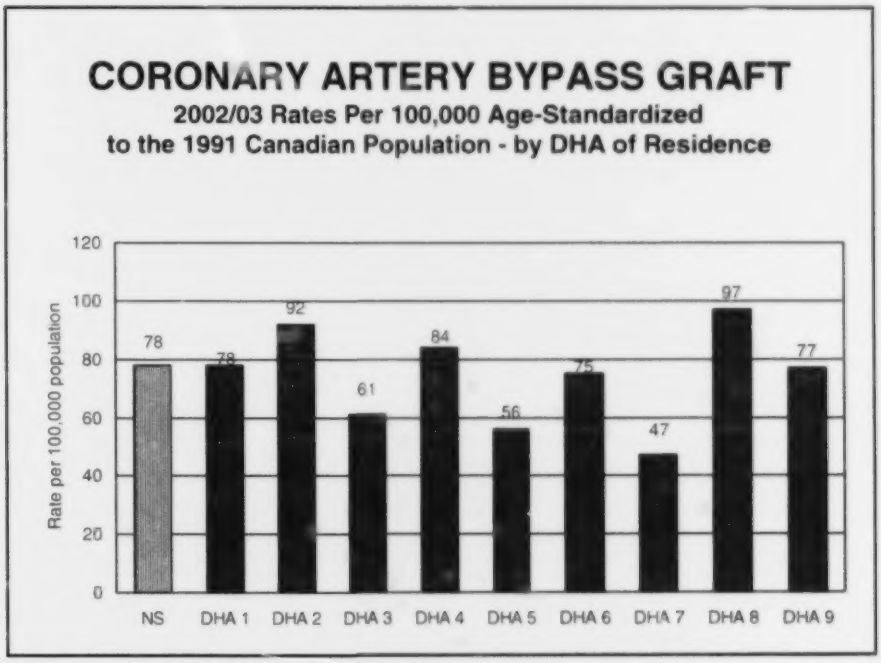
Coronary Artery Bypass Graft (CABG)

Definition
Restoration of coronary blood flow by a tubular surgical bypass (grafted mammary artery or saphenous vein) of an occluded coronary artery.

Significance – Rationale and Notes for Interpretation
Coronary artery bypass graphs are performed to restore blood flow to the heart. CABG's are preformed to prevent future heart complications (for example heart attack), are a therapeutic intervention to restore function post heart attack, and may be representative of patients' access to care. Coronary artery bypass graft (CABG) rates reached a high of 84 per 100,000 in 2001/02 after falling slightly in the previous two years. In 2002/03 the rates for CABG ranged from a high of 97 per 100,000 in DHA 8 to a low of 47 per 100,000 in DHA 7.

Technical Specifications
Calculation: Principal intervention CCI code 1.IJ.76.^^ used.
1. ((The number of coronary artery bypass grafts performed as principal intervention**)/(**the population for the province**) X** Standardizing Process**) X** 100,000
2. ((The number of coronary artery bypass grafts performed as principal intervention per District**)/(**the population estimate per District**) X** Standardizing Process**) X** 100,000.

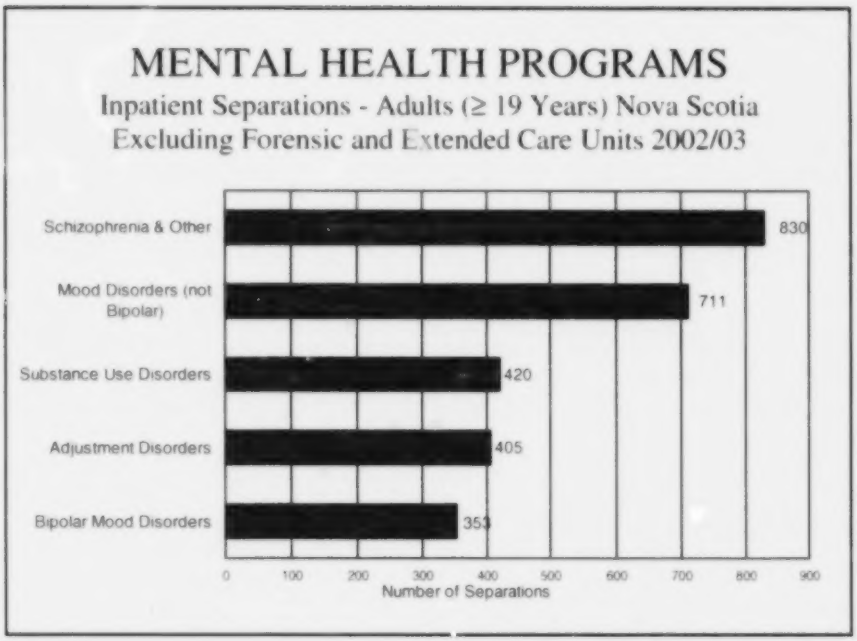
Source: Nova Scotia Department of Health, Canadian Institute for Health Information Discharge Abstract Database, 1995/96 – 2001/02



Section 4
Provincial Programs and Services

In Nova Scotia, a number of programs work together to provide the health care services our communities require. Many of these programs provide specialized services offered outside of the hospital environment. These programs help to facilitate and provide appropriate care and develop disease prevention and promotion programs.

The data these programs collect provides information on the health care needs of specific communities and age groups and allows effective planning and funding of services in these areas.



Mental Health Programs

1. Inpatient Separations – Adults (≥ 19 years) Nova Scotia, 2002/03
2. Patient Days – Adults (≥19 years) Nova Scotia, 2002/03
3. Inpatient Separations - Children (<19 years) Nova Scotia, 2002/03
4. Patient Days – Children (<19 years) Nova Scotia, 2002/03
5. Ambulatory Care, Average Visits Per Client and Active Clients Per 1000 Population – 1996/97 to 2002/03
6. Ambulatory Care Number of People Served - Mental Health Outpatient Information System (MHOIS) - Unique Clients 1996/97 to 2002/03
7. Top Diagnoses, Outpatient Clinics - Adults (≥19 Years) 2002/03
8. Top Diagnoses, Outpatient Clinics - Youth (<19 Years) 2002/03

Definition

1 & 3 Inpatient Separations - Adults (≥ 19 Years) and Children (<19 Years) Separations from designated psychiatric units in Nova Scotia hospitals.

2 & 4. Patient Days - Adults (≥ 19 Years) and Children (<19 Years)
The number of days accumulated by separations from designated psychiatric units in Nova Scotia hospitals.

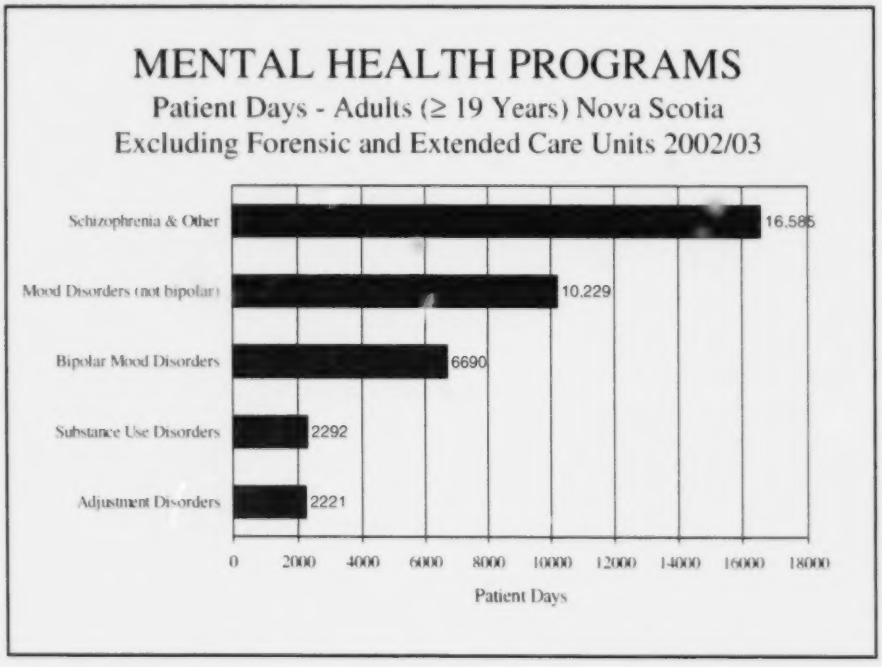
5. Ambulatory Care – Average Visits per Client and Active Clients per 1000 Population 1996/97 to 2002/03 Visits per Client: average visits per client is an indicator of service intensity. Unlike the active client rate (discussed below) the

visits per client indicator represents the number of total visits (as defined by MIS guidelines) not unique clients, and is divided by the number of clients whose files were open during the reporting period.
Active Client Rate: Active unique clients per 1000 population (refers to unique Health Card numbers). 'Active unique clients' is a unique count of individuals treated within a given period, in this case, one year. The 1991 Statistics Canada Census population for Nova Scotia is used for the denominator.

6. Ambulatory Care - Number of People Served - Mental Health Outpatient Information System (MHOIS) Unique Clients – 1996/97 to 2002/03
This is a unique count of the number of people served by the outpatient Mental Health Programs in Nova Scotia.

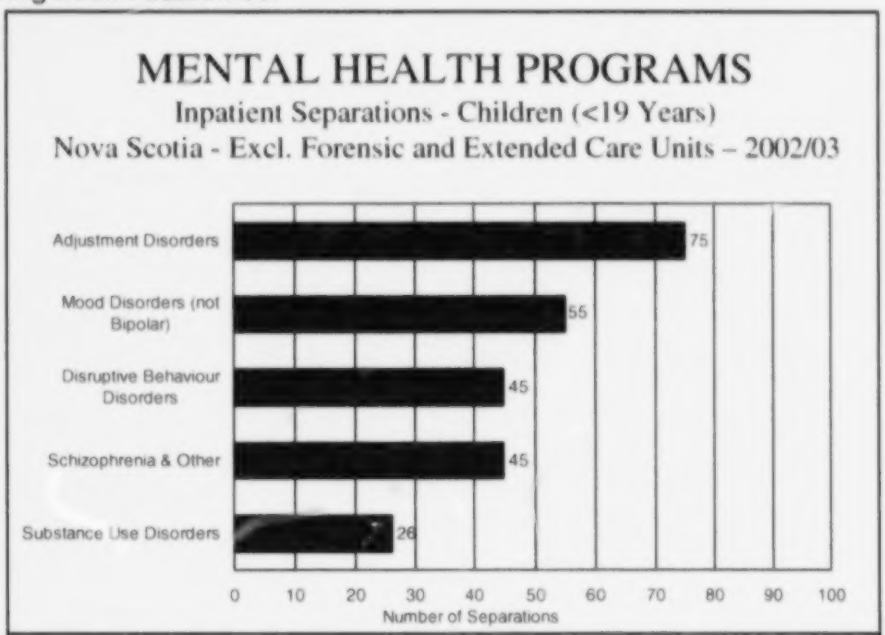
7. Top Diagnoses - Outpatient Clinics - Adults (≥19) – 2002/03 Top Diagnoses – Outpatient Clinics (Ambulatory Care)

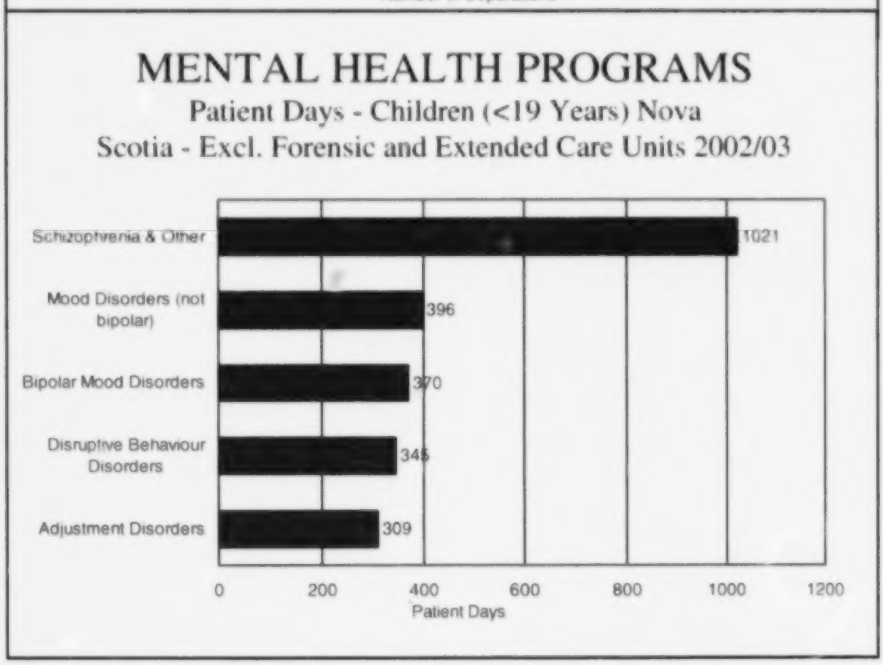
8. Youth (<19) clients treated in outpatient mental health programs in Nova Scotia during 2002/03. 'Diagnosis Deferred' occurs when mental health therapists either do not have enough exposure to a client (for example one visit), or the problem is difficult to diagnose and thus the diagnosis is deferred until such time as an accurate one can be made.



Significance - Rationale and Notes for Interpretation

The Mental Health Program provides a range of services across the life span to residents of Nova Scotia. These services include inpatient services, outpatient and outreach services, community support services as well as specialty services. Information on utilization of these services is necessary in establishing priorities, allocating resources, designing prevention and rehabilitation programs and improving health outcomes.





Technical Specifications

Calculation:

1 & 3: The sum of in-patient separations from each patient service (64 - psychiatry and 65 - pediatric psychiatry) for each diagnostic group for all hospitals with a designated psychiatric unit.

2 & 4: The sum of in-patient days from each patient service (64 - psychiatry and 65 - pediatric psychiatry) for each diagnostic group for all hospitals with a designated psychiatric unit.

5: Visits per Client: the total number of visits / the number of clients with open cases during the time period under study.

Active Client Rate: (the number of active unique clients / the 1991 Statistics Canada Census population for Nova Scotia) X 1000.

6: Number of active unique clients served within a specified time period (as captured by the Mental Health Outpatient Information System).

7 & 8: Listing of the five most common / frequently occurring diagnoses for adults (19 and over) and youth (under 19) in outpatient clinics.

Source:

1 – 5 NSDoH CIHI DAD 1996/97 to 2002/03.

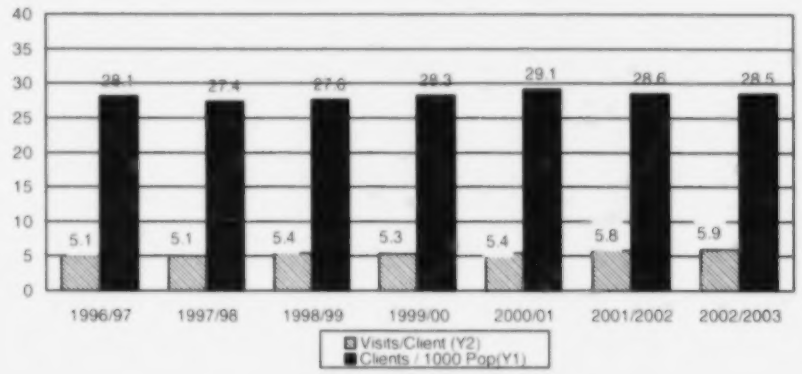
7 – 10 Mental Health Outpatient Information System, Annual Reports, NSDoH

Diagnostic Clusters (2003):

1. Schizophrenia & Other (F20, F21, F22, F23, F25, F28, F29)
2. Mood Disorders (not bipolar)(F32, F33, F34, F38, F39)
3. Adjustment Disorders (F43, F92.8, F92.9)
4. Bipolar Disorders (F30, F31)
5. Substance Use Disorders (F10-F19)
6. Disruptive Behaviour Disorders (F90, F91, F92.0, F98)
7. Diagnosis Deferred (R46.8, R69)
8. Misc Anxiety Disorders (F40, F41, F42, F43.0, F43.1, F93, F94)
9. Relationship Problems (F93.3, Z63.0, Z63.1, Z63.7, Z63.8, Z63.9)
10. Attention Deficit Hyperactive Disorder (F90.0, F90.9, F98.8)

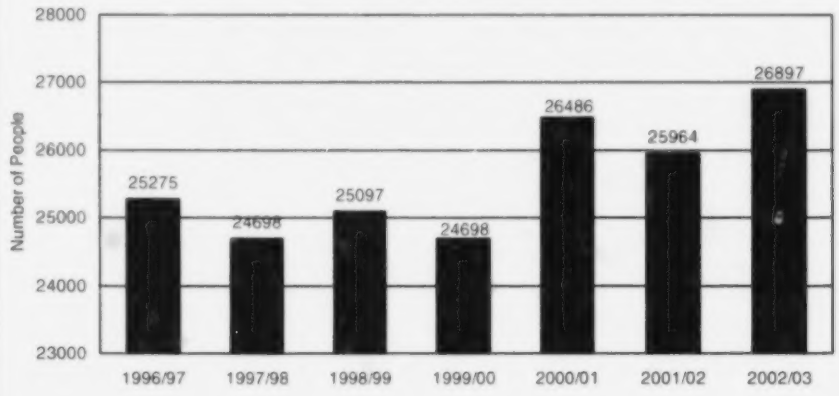
MENTAL HEALTH PROGRAMS
AMBULATORY CARE

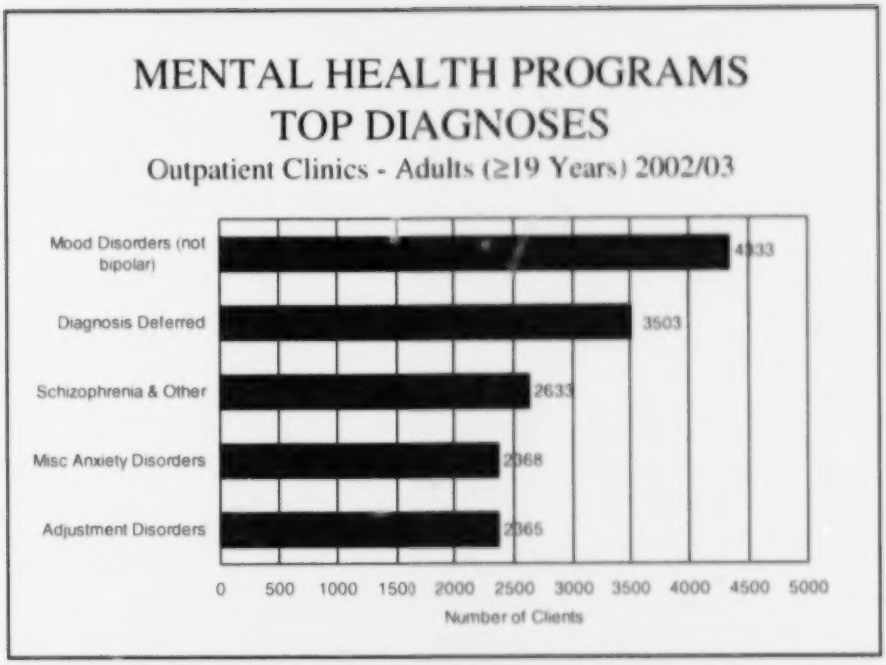
Average Visits Per Client and Active Clients Per 1000 Population – 1996/97 to 2002/03

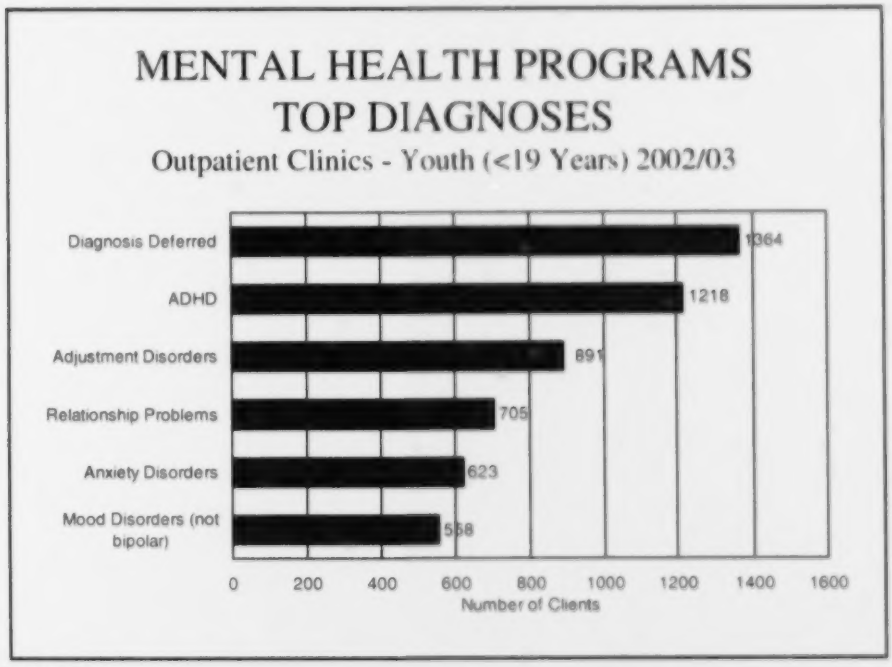


MENTAL HEALTH PROGRAMS
AMBULATORY CARE

Number of People Served - Mental Health Outpatient Information System (MHOIS) - Unique Clients 1996/97 to 2002/03

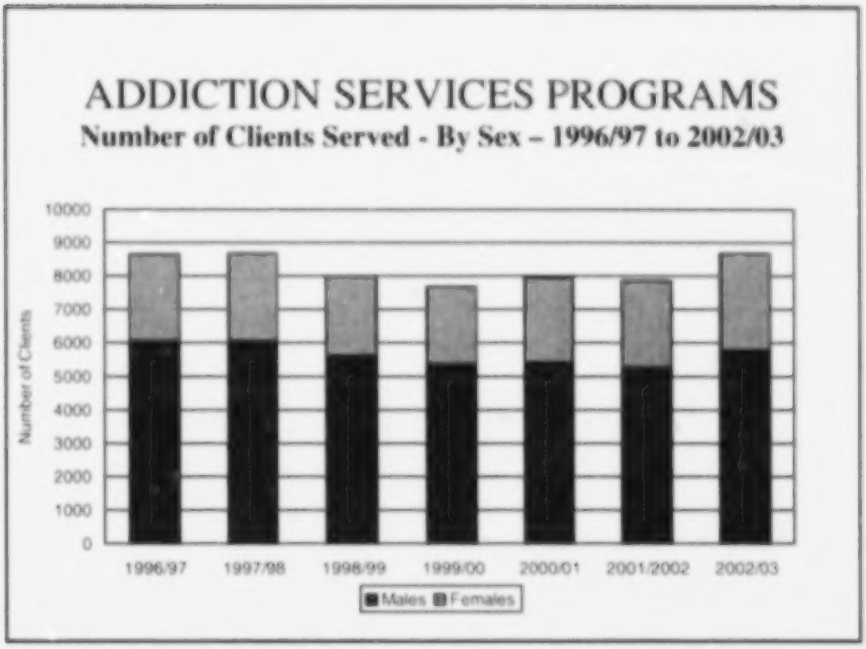






Disclosures

Exclusions: Separations from Forensic and Extended Care Units, out of province patients and acute care patients with a length of stay of more than 731 days are excluded for all of the mental health program indicators.



Addiction Services Programs

Definition

1. The total number of male and female clients who used Addiction Services programs in a given fiscal year. Addiction Services includes many program areas: Community-Based Outpatient Services, Detoxification (Withdrawal Management), Addiction Education Program (A.E.P.), Structured Treatment, Community Oriented Recovery Environment (C.O.R.E.) services (Capital Health only). Three out of four shared service areas (DHA 1, 2, 3 and DHA 4, 5, 6 and DHA 7,8) have A.E.P. (Capital Health does not). The Structured Treatment programs are found in shared services areas: DHA 1, 2, 3 and DHA 7, 8.

2. The number of clients in Community-Based Outpatient Services. The total number of clients discharged from Inpatient Services including: Detoxification (Withdrawal Management), A.E.P., Structured Treatment, and CORE (Capital Health). Services vary between districts.

Significance – Rationale and Notes for Interpretation

Addiction services program data assist service planners and providers in developing and maintaining effective, efficient and appropriate services by examining the number of, and characteristics of, people using services (eg type of services used by sex, age group). Addiction services program data monitors the use of services. These services are intended to minimize the harms

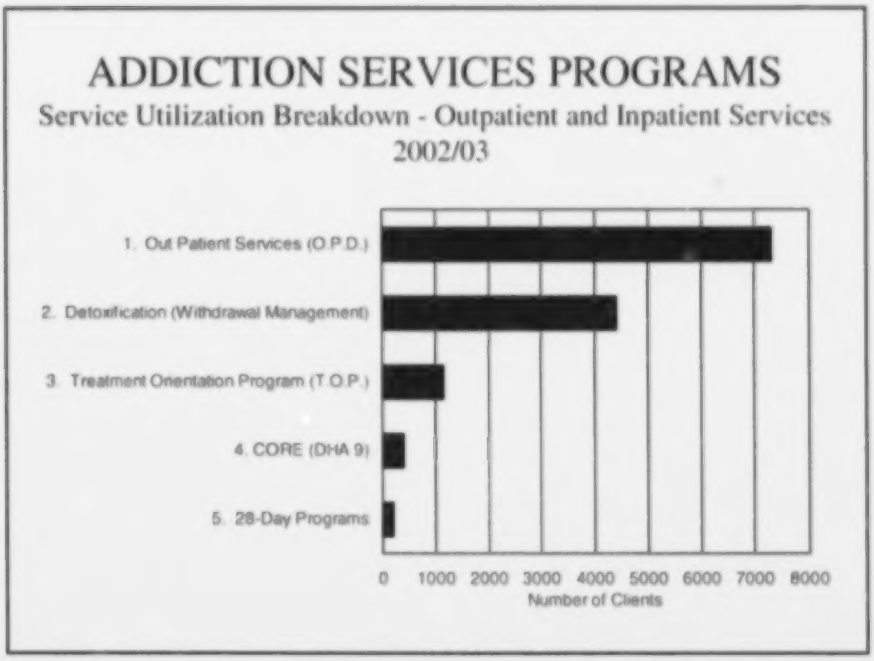
associated with substance use and/or gambling, thereby improving the health of Nova Scotians.

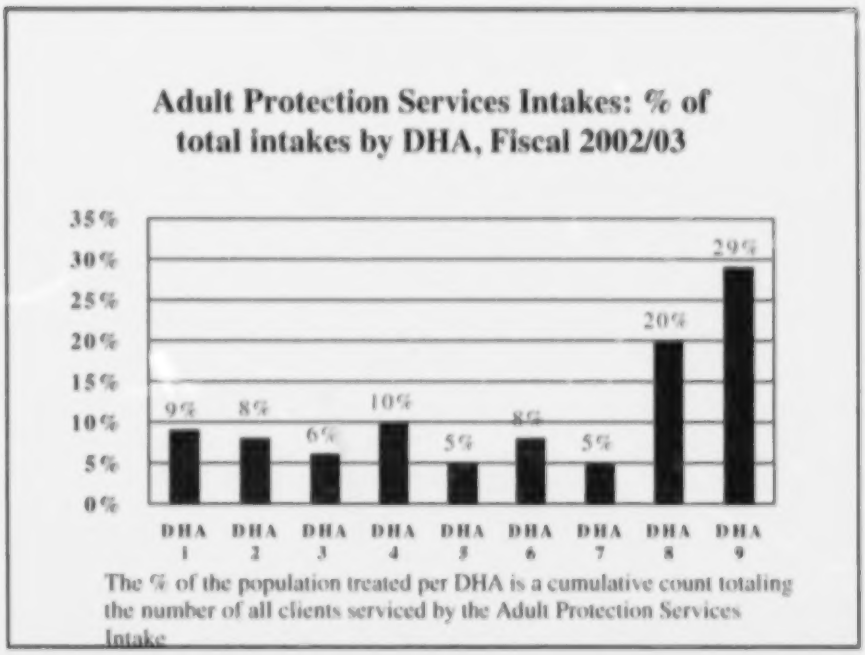
Technical Specifications

Calculation: 1. The total number of unique male and the total number of unique female clients who used Addiction Services programs in a given fiscal year.

2. The total number of clients in Community-Based Outpatient Services. The total number of clients discharged from Detox, A.E.P., Structured Treatment, and CORE.

Source: Nova Scotia Addiction Services Program Statistics, NSDoH.





Adult Protection Services

Definition

Adult Protection Services provides protection from abuse (mental, physical, or sexual) and neglect (self-neglect or caregiver neglect) of vulnerable adults, of the ages 16 and over, as mandated by the Adult Protection Act, 1985.

Significance – Rationale and Notes for Interpretation

Adult Protection data is gathered to enable effective service planning and provision. This data also enables service providers to recognize increases and decreases in the number of cases reported, and trends in the age of victims, which can indicate a need for health promotion and education strategies targeted at certain areas and/or age groups. Adult Protection Service information is collected and reported as mandated by the Nova Scotia Adult Protection Act of 1985.

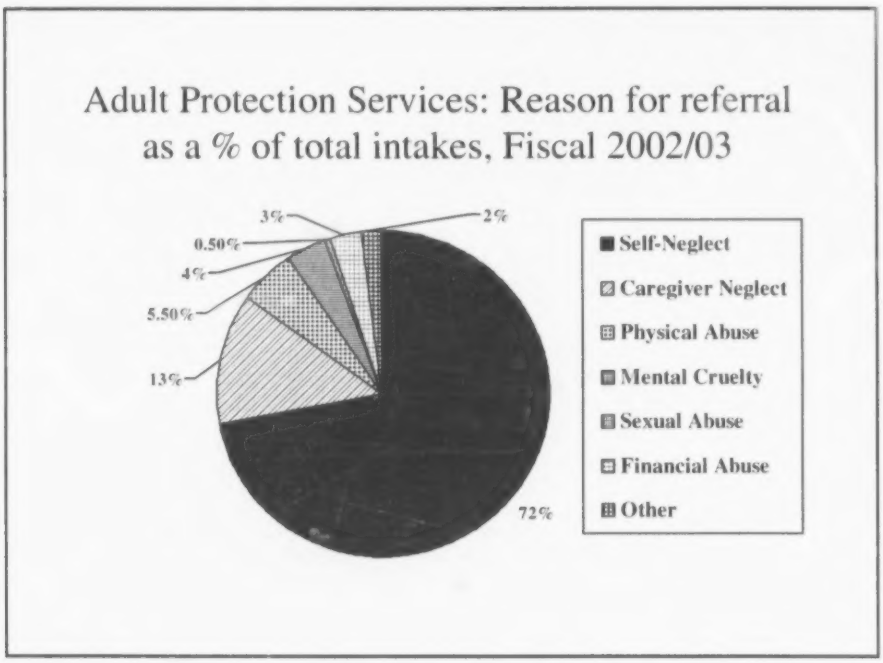
Technical Specifications

The total number of Adult Protection Intakes for 2002/03 is 1,203. An Intake is defined as a referral that has been received and there is reasonable and probable grounds to believe the person may be in need of protection.

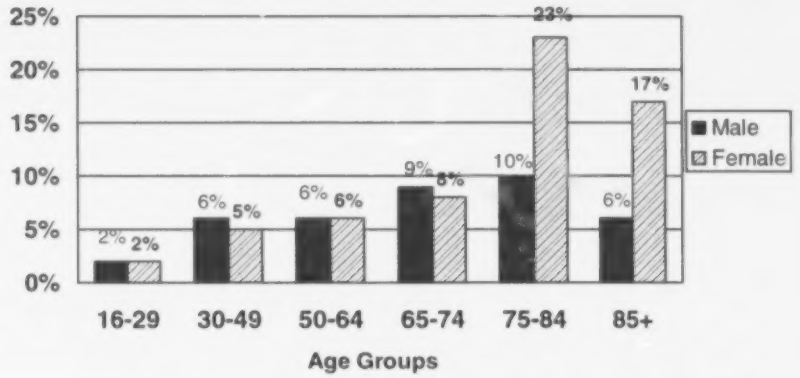
Calculation:

1. DHA adult protection intakes as a percentage of the provincial intake total
2. Reason for Referral as a percentage of the provincial intake total
3. Percent of provincial intake total, in one of 6 age categories and as male or female.
4. Referral Source as a percentage of all referrals resulting in provincial intakes.

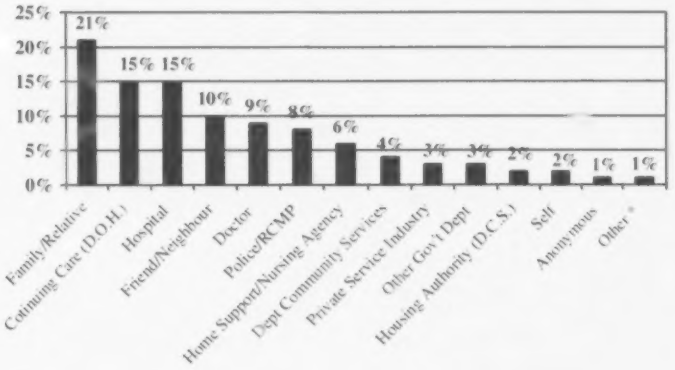
Source: Adult Protection Services Program, Continuing Care Branch, NS DoH

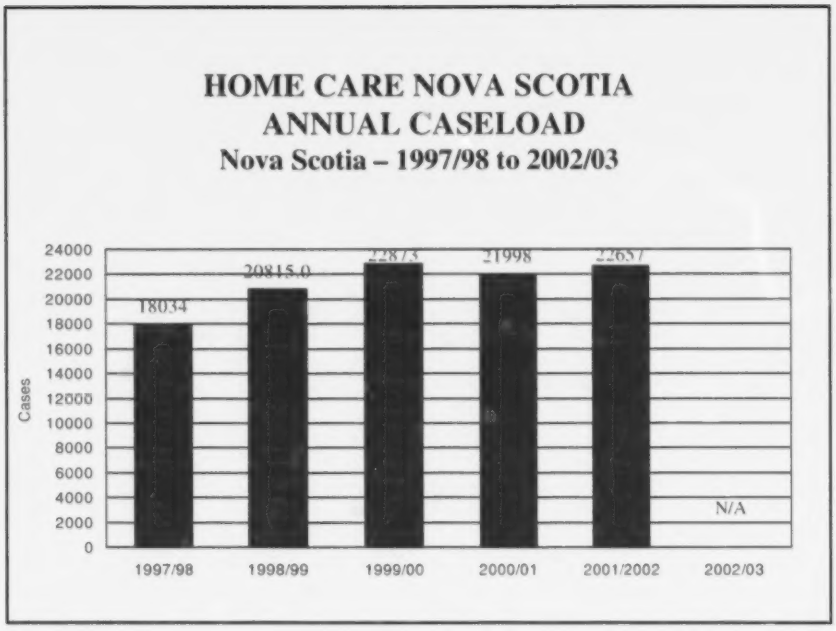


Adult Protection Services: % of total intakes by age group and sex, Fiscal 2002/03



Adult Protection Services: % of total intakes by referral source, Fiscal 2002/03





***Data for Fiscal 2002/03 unavailable from Home Care Nova Scotia**

Home Care Nova Scotia

Definition
Caseload refers to the number of clients who received home care services during the reporting period. Individuals are admitted to the program when a care coordinator, assigned to a level of service, has assessed them. Service delivery (nursing, home support, personal care, oxygen services, and case management) has begun.

Significance – Rationale and Notes for Interpretation
Data on home care services are collected in order to:
measure utilization levels, assist with budgeting efforts, and to provide identification of service trends for program planning purposes.

Technical Specifications
Calculation: The accumulated total number of clients in the caseload for 1995/96, 1996/97, 1997/98, 1998/99, 1999/00, 2000/01 and 2001/02.

Source: Monthly Provincial Statistics from Home Care Nova Scotia, NSDoH.

Emergency Health Services Nova Scotia (EHS)

Emergency Health Services (EHS) is a division of the Nova Scotia Department of Health. As a regulator, EHS is responsible for the continuing development, implementation, monitoring and evaluation of pre-hospital emergency health services in the province.

EHS integrates various pre-hospital services and programs required to meet the needs of Nova Scotians across the province. The main components are:
1) The EHS Communications Center
2) The EHS ground ambulance system
3) EHS LifeFlight
4) The EHS Nova Scotia Trauma Program
5) The EHS Atlantic Health Training and Simulation Center
6) The EHS Medical First Response program

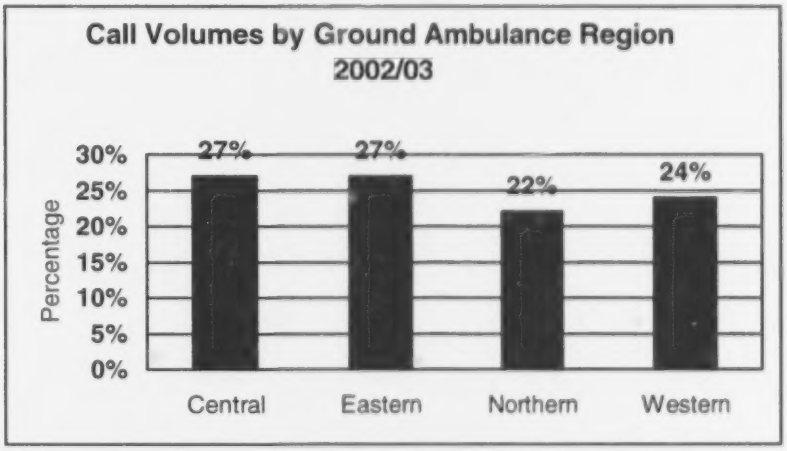
In addition, all system components are monitored by Medical Oversight of physicians specially trained in emergency and critical care.

For more detailed information on EHS, please visit www.gov.ns.ca/health/ehs

Approximately 140 ground ambulances, one rotary wing aircraft and one fixed wing aircraft are dedicated to meeting the direct patient care needs of Nova Scotia's citizens. For 2002/03, this resulted in close to 96,000 requests for ground service with over 84,000 transports, and almost 900 requests for air service with just under 600 transports.

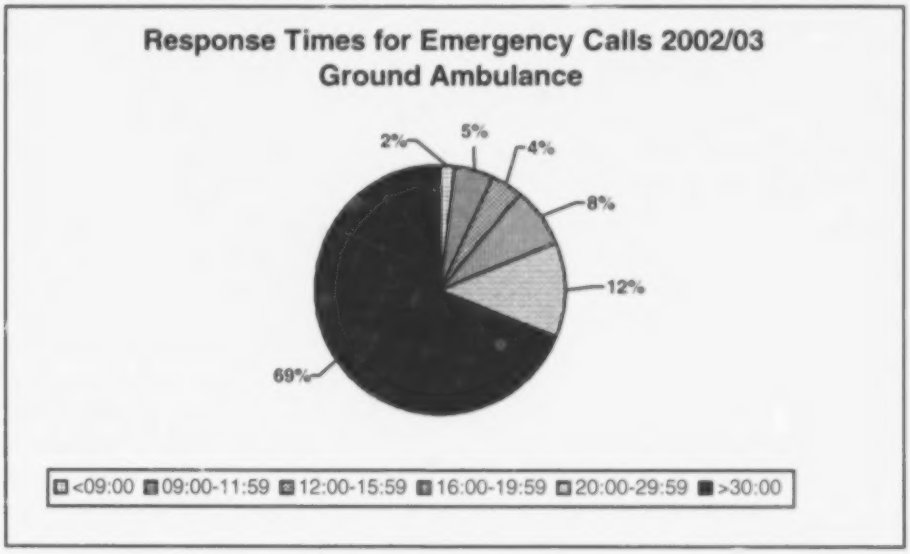
1.0 EHS Ground Ambulance

Figure 1.1 Ground Ambulance Call Volume



EHS has defined minimum standards for response time reliability. Response time is the "actual elapsed time between when a call is received at the EHS communications center and the actual arrival of the ambulance at the location". By setting these standards and evaluating compliance with them, EHS offers an effective emergency service to Nova Scotians. Figure 1.2 shows the response times for emergency calls for the entire province (urban and rural areas) during the year 2002/03.

Figure 1.2 Ground Ambulance Response Times

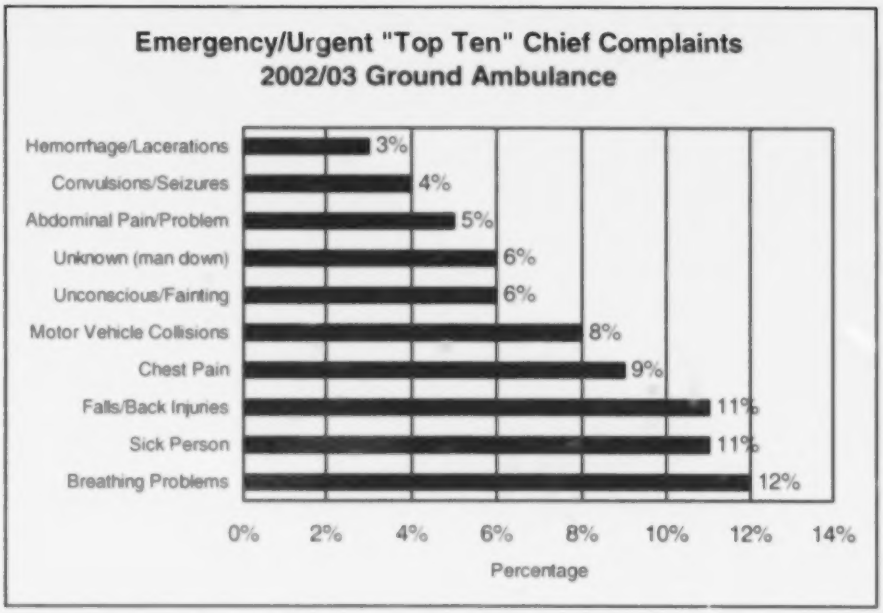


Source: *EHS CAD*

Response time: The actual elapsed time (in minutes and seconds) between when the call is received at the EHS communications center and the actual arrival of an ambulance at that location

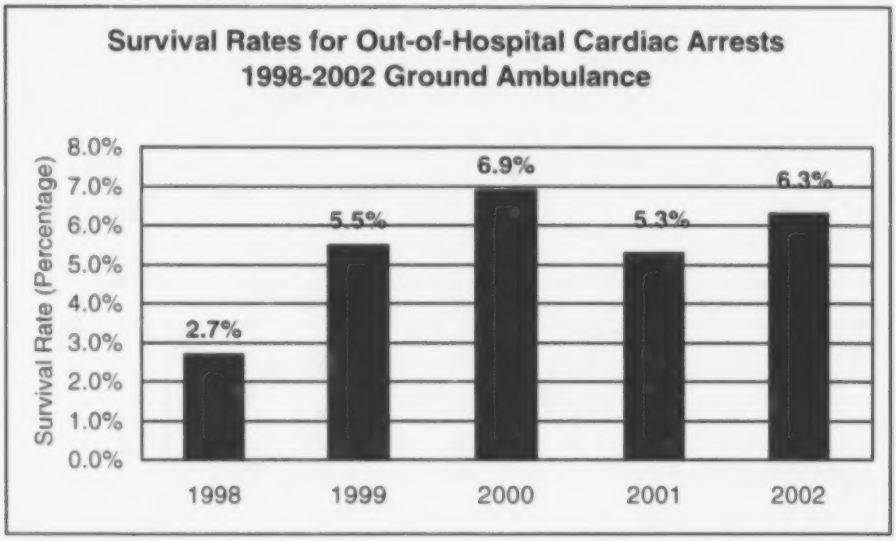
One way to determine the skills and equipment that paramedics require to do their job efficiently is to identify the most frequently requested types of emergency services. Figure 1.3 illustrates the "Top Ten" chief complaints received for the year 2002/03, as a percentage of total calls received.

Figure 1.3 Chief Complaints for Ground Ambulance Calls



The main clinical outcome measure for most EHS systems is cardiac arrest. During 2002, 589 cardiac arrest patients had resuscitations initiated in the field. Figure 1.4 presents the out-of-hospital cardiac arrest survival rates for Nova Scotia for the years1998-2002. (Survival is defined as a patient being discharged from hospital neurologically intact after having an out-of-hospital cardiac arrest)

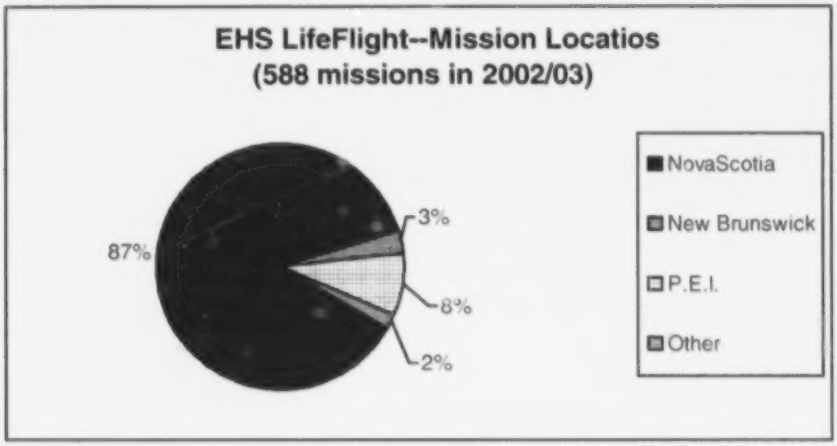
Figure 1.4 Cardiac Arrest Statistics



2.0 EHS LifeFlight

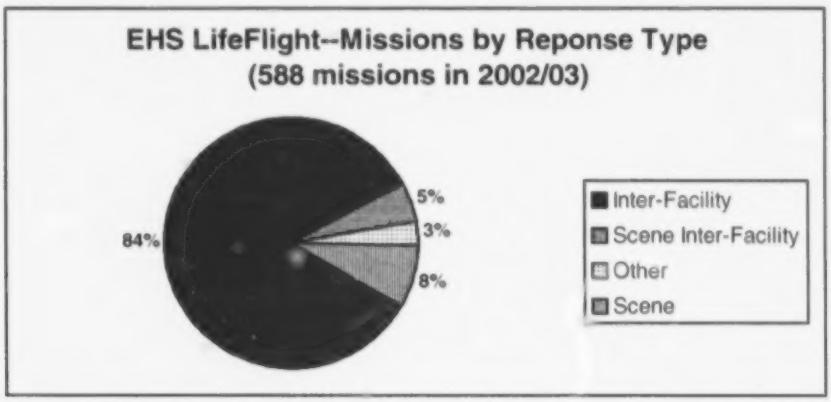
During the year 2002/03, EHS LifeFlight completed 588 missions. Of those 513 (87%) were in Nova Scotia and 75 (13%) missions were in other provinces. Figure 2.1 shows the distribution of missions by location.

Figure 2.1 EHS LifeFlight Missions



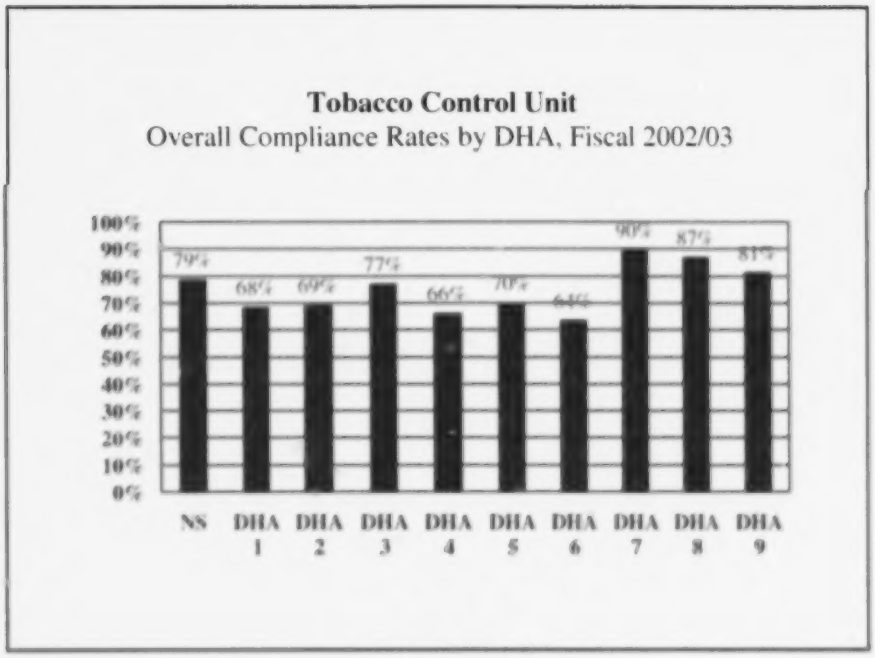
Other: Other provinces of Canada or the United States

Figure2.2 EHS LifeFlight Missions by Response Type



Source: EHS LifeFlight

Inter-Facility: The patient is transported between two approved health care facilities.
Scene: Request for a transport originates from a scene of injury or illness and the patient is picked up directly from the scene.
Scene Inter-Facility: Request for a transport originates from the scene of injury or illness and patient is picked up from a health care facility.
Other: Repatriation



Tobacco Control Unit
Overall Compliance and Retailer Compliance Rates: Tobacco Sales to Minors by DHA, Fiscal 2002/03

Definition
The percentage of retailers complying with the requirements outlined in the Provincial Tobacco Access Act and the Federal Tobacco Act.

Significance – Rationale and Notes for Interpretation
Overall compliance is a measure of retailers complying with the requirements outlined in the Provincial Tobacco Access Act and the Federal Tobacco Act, as opposed to Retailer Compliance: Sales to Minors being a measure strictly of retailers selling to minors. Tobacco sales are controlled by legislation making it illegal to sell to people under 19 years of age.

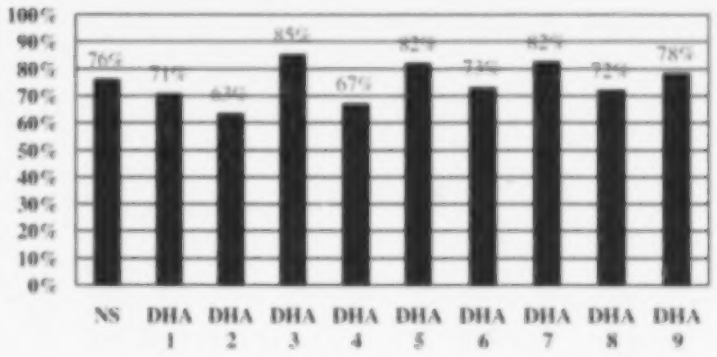
Technical Specifications
Calculation:

1. **(((**The total number of inspections + Compliance checks) – (the number of retailers cited)) / (the total number of inspections + Compliance checks)) **X** 100.
2. **((**The total number of inspections – the number of retailers cited)/(the total number of inspections)) **x** 100

Source: Tobacco Control Unit Annual Statistics, NSDoH

Tobacco Control Unit

Retailer Compliance Rates: Tobacco Sales to Minors by DHA. Fiscal 2002/03



Section 5
Health Care System Performance

Health system indicators help health regions monitor improvement progress and general functioning of the health system for which they are responsible through the provision of quality, comparative information on the health services provided to the region's residents and the characteristics of the health system. This section provides typical health system performance indicators including those listed below.

Population by physician and registered nurse are useful indicators of the number of physicians and nurses relative to the population but any inference from total numbers or ratios as to the adequacy of provider resources should not be made. The populations' access to hospitals, health care facilities, technology; physician type (primary care physicians vs. specialists); physician age and sex can influence whether the supply of provider resources is appropriate.
Beds per 1000 population, patient days per 1000 population, and average length of stay are all indicators of hospital efficiency and utilization.

It has been shown that preadmission testing and surgery on the day of admission helps to decrease the length of stay for a patient. This translates into reduced health care costs for hospitals.

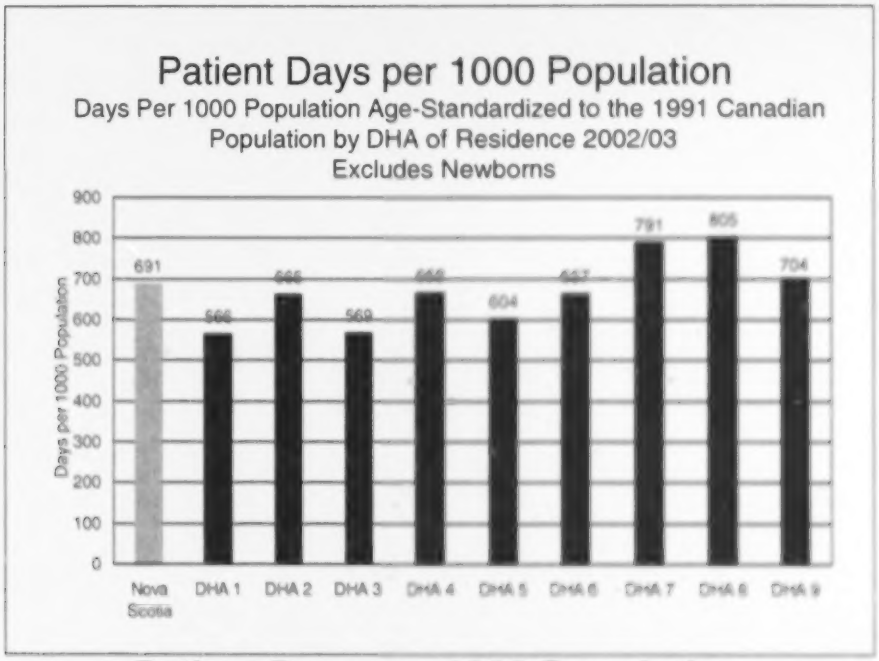
Readmission rates have long been used as one method of following the effect of bed closures and the shortening of hospital lengths of stay.

Ambulatory care sensitive conditions are a CIHI indicator. These conditions are chronic diseases and it is felt that appropriate ambulatory care could prevent the onset of this type of illness or condition, or control an acute episodic illness or condition, or manage a chronic disease or condition. Districts and/or hospitals can monitor the volume of cases and total days to see if perhaps better or more ambulatory care could be provided.

Inflow/outflow ratios compare hospital services given in a specific district to hospital services received by residents of the same district.

Caesarean sections (C-Sections) have long been monitored as an indicator of health system performance. An elevated rate of c-sections may increase the risk of pregnancy and delivery complications.

Wait times are difficult to collect consistently. Monthly wait times for cardiovascular procedures have been collected and monitored by the Cardiovascular Division of the Queen Elizabeth II Health Sciences Centre and the Department of Health for several years. This is also an indicator of health system performance.



Patient Days per 1000 Population

Definition

Patient care days for acute care inpatient separations (by DHA of residence) expressed as a rate per 1000 population for a specified time period.

Significance – Rationale and Notes for Interpretation

Patient days per 1000 population is an indicator of resource use and service planning. Throughout the country, as well as Nova Scotia, patient days per thousand population have been decreasing since the mid 1990's. Standardizing removes the effects of age (and/or sex) in the population. The resulting standardized rate provides a more appropriate comparison between geographic areas and time periods than does the crude rate. Age standardized patient days per 1000 population range from a high of 805 in DHA 8 to a low of 566 in DHA 1. Patient days per 1000 have decreased in Nova Scotia from a high of 917 in 1997/98 to 691 in 2002/03.

Technical Specifications

Calculation:

Figure 1: **((**The total days stay of those patients separated from hospital by DHA of residence/the yearly NS population estimate by DHA**)** **X** Standardizing Process**)** **X** 1000

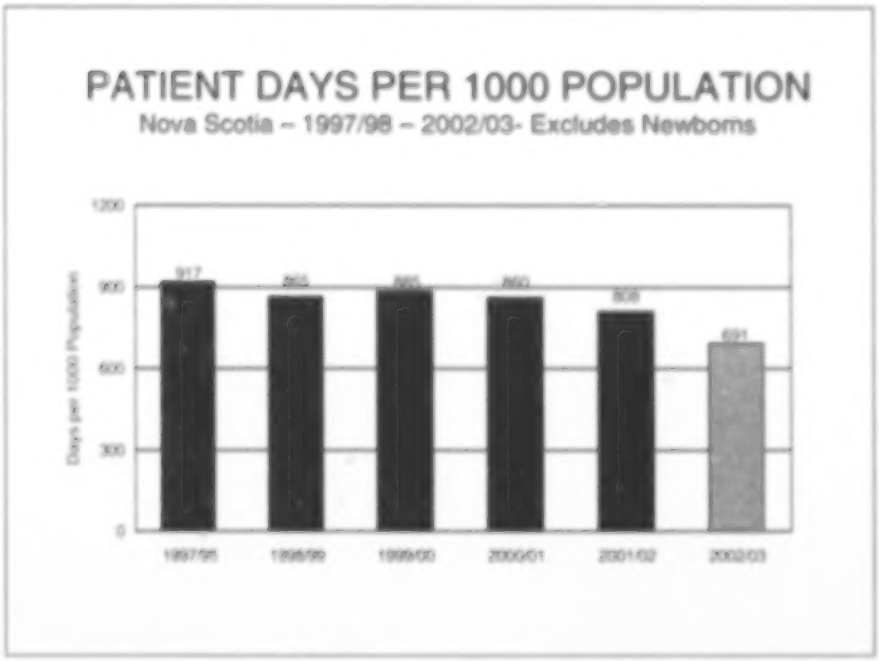
Figure 2: **((**The total days stay for hospital inpatient separations/NS population**)** **X**1000

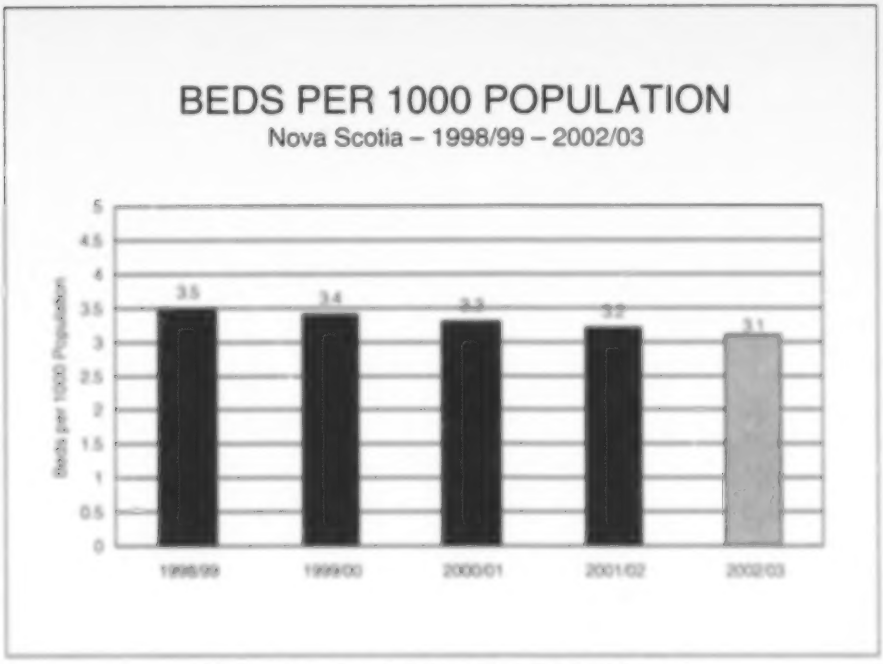
Source: Nova Scotia Department of Health / Canadian Institute of Health Information Discharge Abstract Database / Population Figures from Statistics Canada population estimates

Disclosures

Exclusions: Veteran Affairs of Canada (VAC), newborns, out of province patients

Inclusions: Acute medical, surgical and psychiatric inpatient days





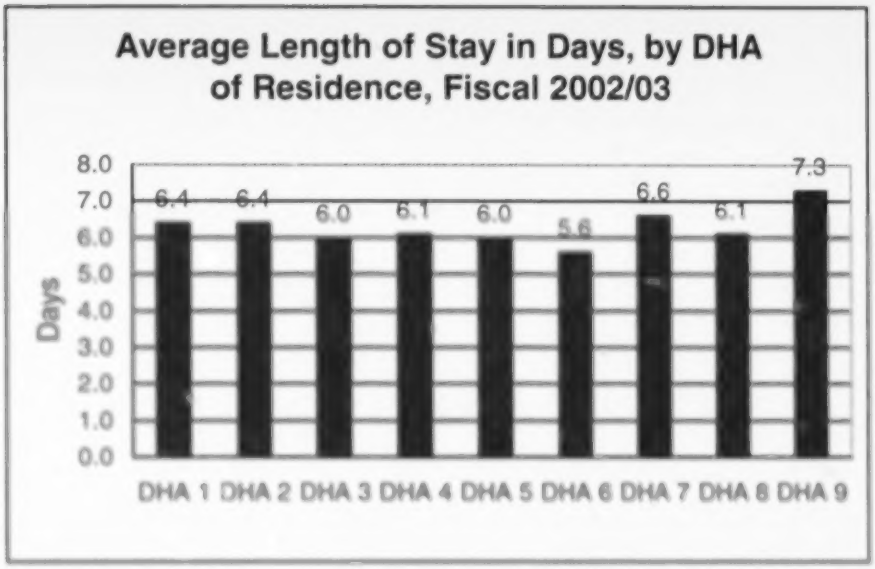
Beds per 1000 Population

Definition
The number of acute care beds per 1000 population.

Significance – Rationale and Notes for Interpretation
We report the number of beds per 1000 population as a measure of hospital capacity and available resources. Acute care bed numbers in Nova Scotia have been decreasing during the last ten years, from 5.3 beds per 1000 population in 1992/93 to 3.1 beds in 2002/03.

Technical Specifications
Calculation: (The total number of acute care beds / the Nova Scotia population) X 1000
Source: Performance Measurement & Health Informatics, Nova Scotia Department of Health

Disclosures
Exclusions: Veterans Affairs of Canada (VAC), Detoxification beds and Level 2 beds.
Inclusions: Acute care, mental health and rehabilitation inpatient bed



Average Length of Stay

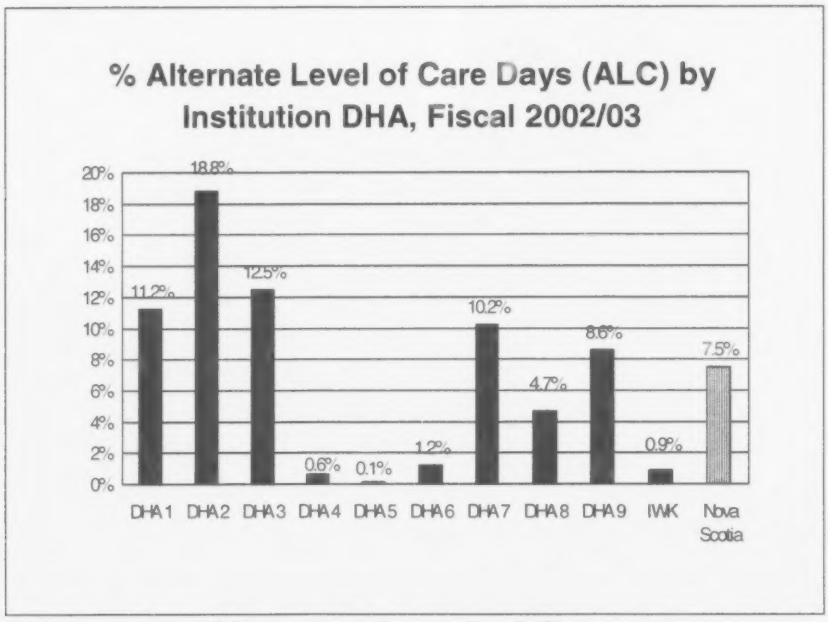
Definition
The average length of a hospital stay for acute care inpatients by DHA of residence.

Significance – Rationale and Notes for Interpretation
There is debate about the usefulness of overall average length of stay (ALOS) as an indicator. Lengths of stay for particular patient groups, especially when compared with other facilities are more commonly used for utilization management at the facility or inter-district level.

Technical Specifications
Calculation: (The total length of stay (in days) for acute inpatient separations by DHA of residence)/(the total acute inpatient separations DHA of residence)

Source: Nova Scotia Department of Health, Canadian Institute for Health Information Discharge Abstract Database.

Disclosures
Exclusions: VAC, newborns, forensic and long-term mental health care, and out-of-province patients
Inclusions: All days and separations for medical, surgical, and acute inpatient cases.



Alternate Level of Care

Definition

Alternate Level of Care (ALC) Days are days of care provided to inpatients who have finished the acute care phase of their treatment or who were admitted for non-acute medical care. ALC status is indicated by the physician or designated other.

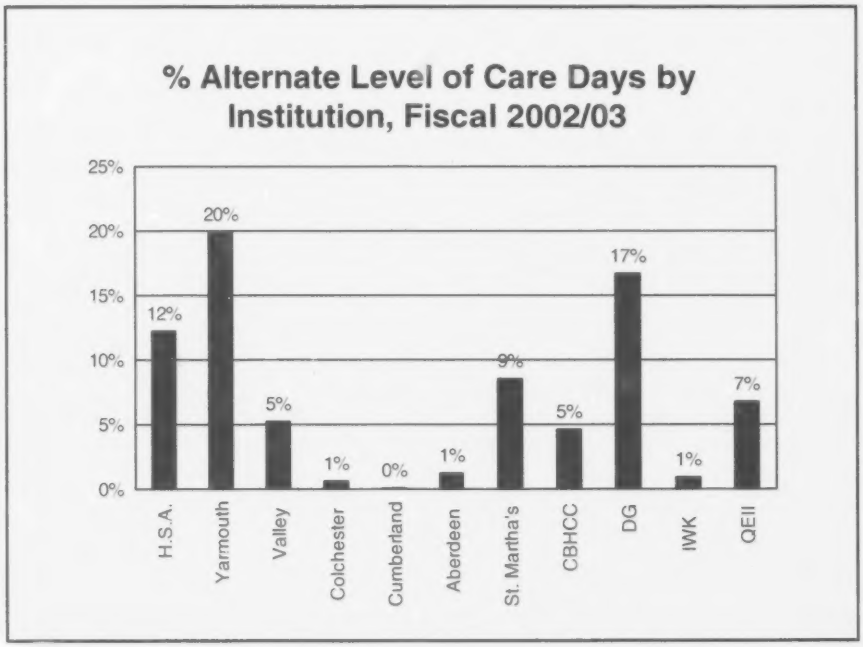
Significance – Rationale and Notes for Interpretation

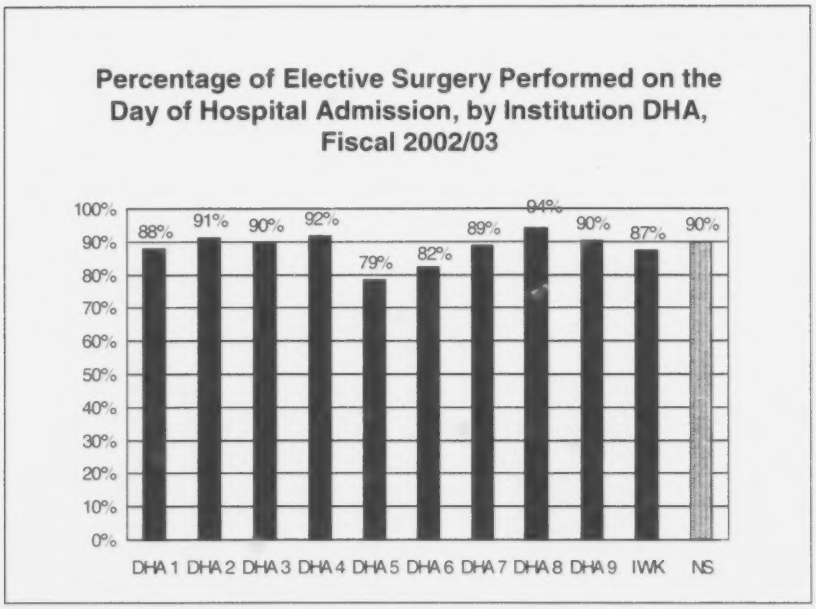
CIHI (Canadian Institute for Health Information) has provided the ALC designation in order to capture those hospital inpatients no longer receiving acute care. This indicator is designed to assess the processes that ensure the placement of patients in the most appropriate care setting. Differences in rates between facilities, districts and provinces may reflect differences in reporting practices rather than differences in hospital utilization or patient mix. ALC rates range from a high in DHA 2 to virtually none in DHA 5.

Technical Specifications

Calculation: 1: **((**The total ALC days**)/(**total inpatient days**)) X** 100
2: **((**The total ALC day per hospital**)/(**the total days stay per hospital**)) X** 100

Source: Nova Scotia Department of Health, Canadian Institute for Health Information Discharge Abstract Database.


% Alternate Level of Care Days by Institution, Fiscal 2002/03
25%
20%
15%
10%
5%
0%
12%
20%
5%
1%
0%
1%
9%
5%
17%
1%
7%
H.S.A.
Yarmouth
Valley
Colchester
Cumberland
Aberdeen
St. Martha's
CBHCC
DG
IWK
QEII



Percentage Elective Surgery Performed On the Day of Hospital Admission

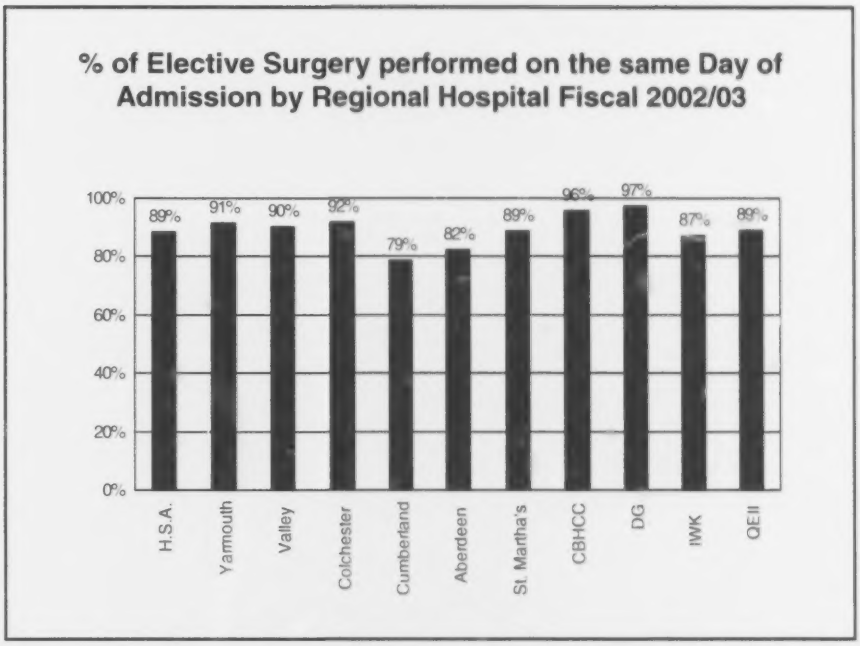
Definition
Same Day Admission surgery occurs when elective surgery is performed on the same day of hospital admission. In other words the admission date is the same as the intervention date. All preparatory investigation is completed prior to admission. Interventions performed in an operating room or an endoscopy room are included. (Excludes obstetrical procedures.)

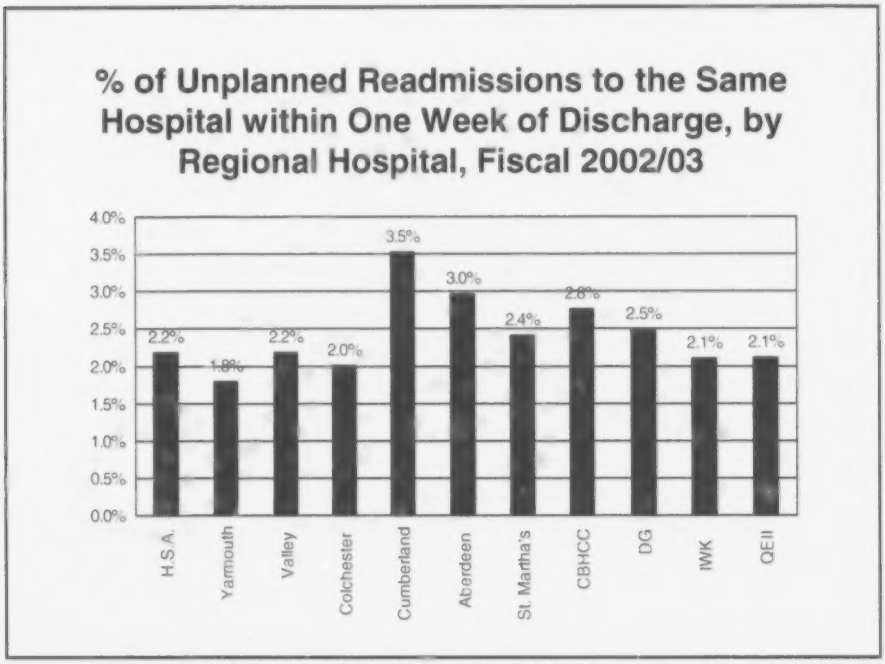
Significance – Rationale and Notes for Interpretation
Preadmission testing followed by surgery on the day of admission help to decrease the length of stay for a patient. This translates into reduced health care costs for hospitals. The percentage of elective surgeries done on the day of admission has increased steadily from 7% in 1990/91.

Technical Specifications
Calculation: **((**The number of elective separations with surgery performed on the day of hospital admission**)/(**the total number of elective separations having surgery**)) X** 100

Source: Nova Scotia Department of Health, Canadian Institute for Health Information Discharge Abstract Database

Disclosures
Inclusions: *Out-of-province patients and newborns*


% of Elective Surgery performed on the same Day of Admission by Regional Hospital Fiscal 2002/03
100%
80%
60%
40%
20%
0%
89%
91%
90%
92%
79%
82%
89%
96%
97%
87%
89%
H.S.A.
Yarmouth
Valley
Colchester
Cumberland
Aberdeen
St. Martha's
CBHCC
DG
IWK
QEII



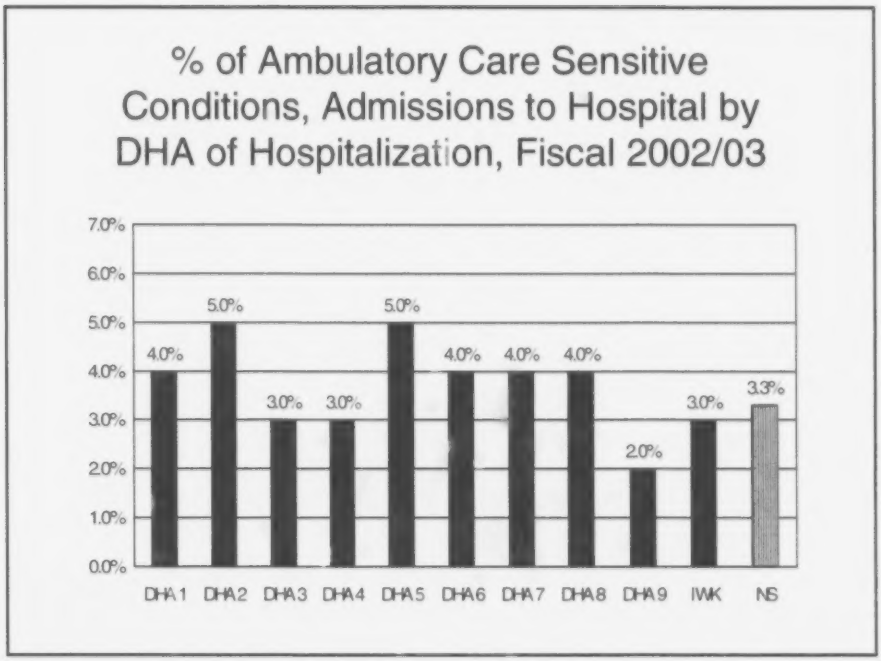
Readmission to the same Hospital – Unplanned from previous Acute Admission within one week of discharge

Definition
Admission to acute care ≤ 7 days; unplanned from previous acute admission at the same facility. Unlike the previous readmission field captured for CIHI, the definition for 2001/02 has nothing to do with the diagnosis but shows only whether readmission is planned or unplanned.

Significance – Rationale and Notes for Interpretation
Hospital readmission rates have been used to measure the effects of decreasing bed numbers and lengths of stay. Percentages of unplanned readmission are low for the province with the highest being 3.5% for Cumberland Regional Health Care Center.

Technical Specifications
Calculation: **((**The number of readmissions ≤ 7 days; unplanned from previous acute admission**)/(**total number of separations**)) X** 100.

Source: NSDoH CIHI DAD 2002/03.



Ambulatory Care Sensitive Conditions

Definition

Inpatient acute care hospitalization rate for conditions where appropriate ambulatory care may prevent or reduce the need for admission to hospital. These conditions are based on a list developed by Alberta and use most responsible ICD-10-CA codes of E10 to E14 (diabetes mellitus), I100 to I15 (hypertensive diseases), F10 to F19 (Mental and behavioural disorders due to psychoactive substance use), F44 to F48 (Neurotic, stress-related and somatoform disorders), J45 (asthma), F55 (Abuse of non-dependence-producing substances), G312 (Degeneration of nervous system due to alcohol), F680 (Elaboration of physical symptoms for psychological reasons), F99 (Mental disorder, not otherwise specified), F931 (Phobic anxiety disorder of childhood), F1341 (Mental and behavioural disorders due to use of sedatives or hypnotics, psychotic disorder), F320 (Mild depressive episode), and F329 (Depressive episode, unspecified).

Significance – Rationale and Notes for Interpretation

While not all admissions for ambulatory care sensitive conditions are avoidable, it is assumed that appropriate ambulatory care could prevent the onset of this type of illness or condition, or control an acute episodic illness or condition, or manage a chronic disease or condition. The correct level of utilization is not known although a disproportionately high rate of ambulatory care sensitive condition

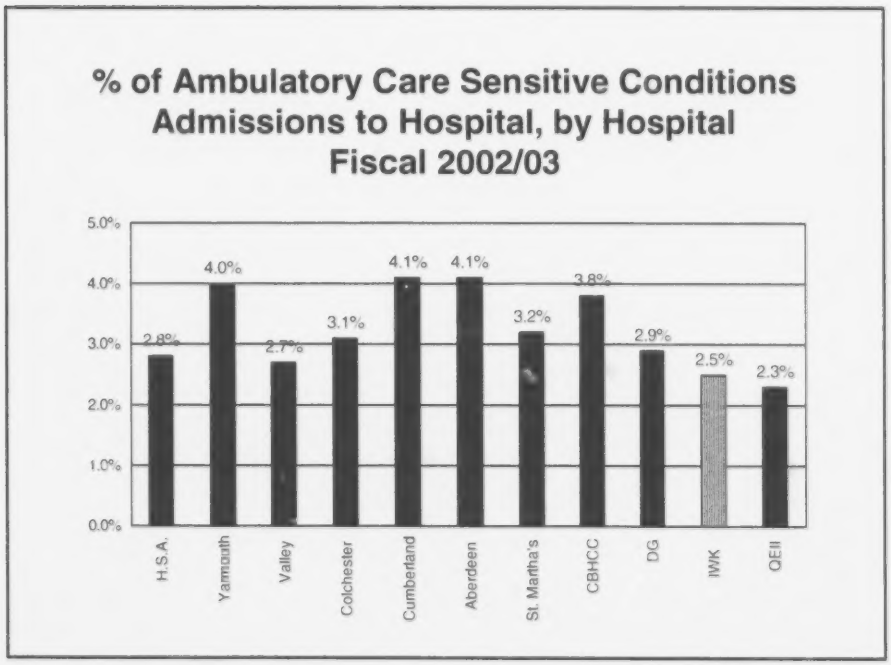
admissions to all admissions suggests problems in obtaining access to primary care.

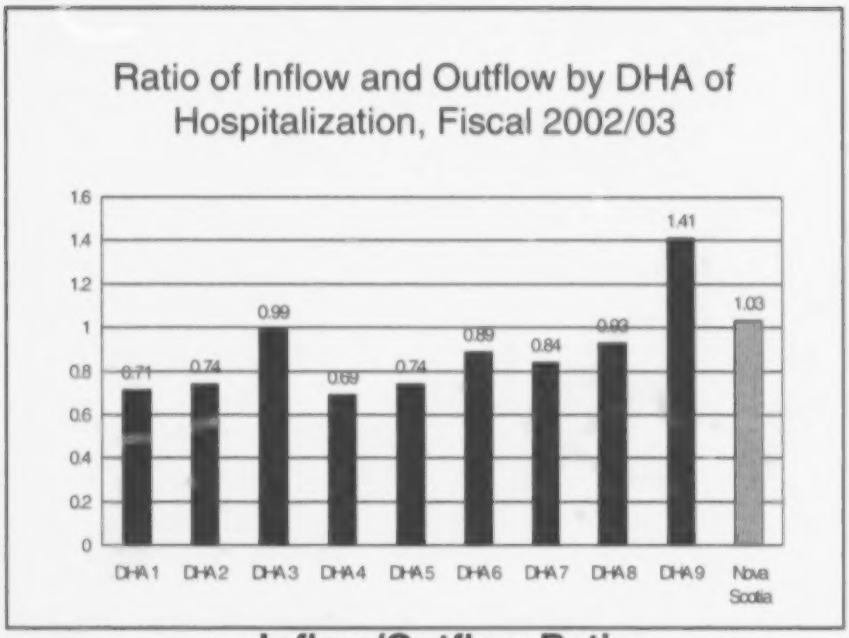
Technical Specifications

Calculation:

1. **((**The number of separations with an ACSC most responsible per district **/** total separations per district**) X** Standardizing Process**) X** 100,000
2. **((**The number of separations with an ACSC most responsible per hospital**/** total separations per hospital**) X** Standardizing Process**) X** 100,000

Source: NSDoH CIHI DAD 2002/03 exclude Nova Scotia Hospital





Inflow/Outflow Ratio

Definition

This indicator reflects the balance between volumes of hospital stays provided to residents and non-residents by all acute care hospitals in a given District Health Authority and the extent of acute hospital utilization by residents of that same District Health Authority, whether they receive care within or out of the DHA.

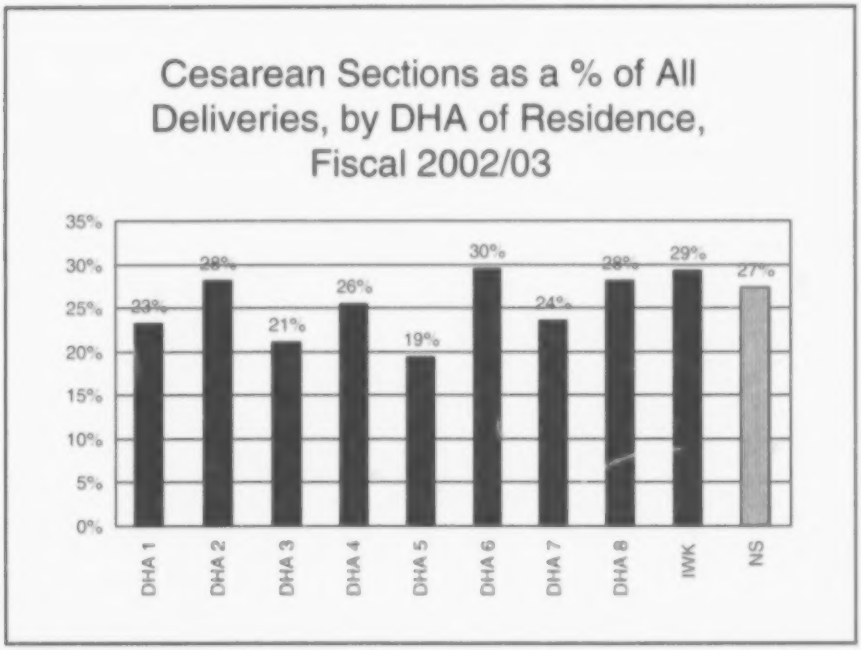
Significance – Rationale and Notes for Interpretation

A ratio of less than one indicates that more residents left their own DHA to receive care than the number of residents that came into the DHA to receive care. A ratio greater than one indicates that more people came into the DHA to receive care than the number of people that left the DHA to receive care. A ratio of one indicates that the volume of hospital discharges in the DHA is equivalent to that generated by its residents, suggesting that inflow and outflow activity, if it exists at all, is balanced. Inflow/outflow ratio ranges from a high of 1.4 in DHA 9, which indicates an inflow, which would be expected as the tertiary care facilities are located in DHA 9, to almost 0.7 for DHA 4.

Technical Specifications

Calculation: (The numbers of separations (discharges and deaths) from acute care hospitals within a given region)/(the number of hospital separations generated by residents of a given district (region is specified in the numerator))

Source: NSDoH CIHI DAD 2002/03



Caesarean Section

Definition
Removal of the fetus through surgical incision of the uterus. The number of caesarean sections (c-sections) performed, as a percent of all deliveries, in each DHA.

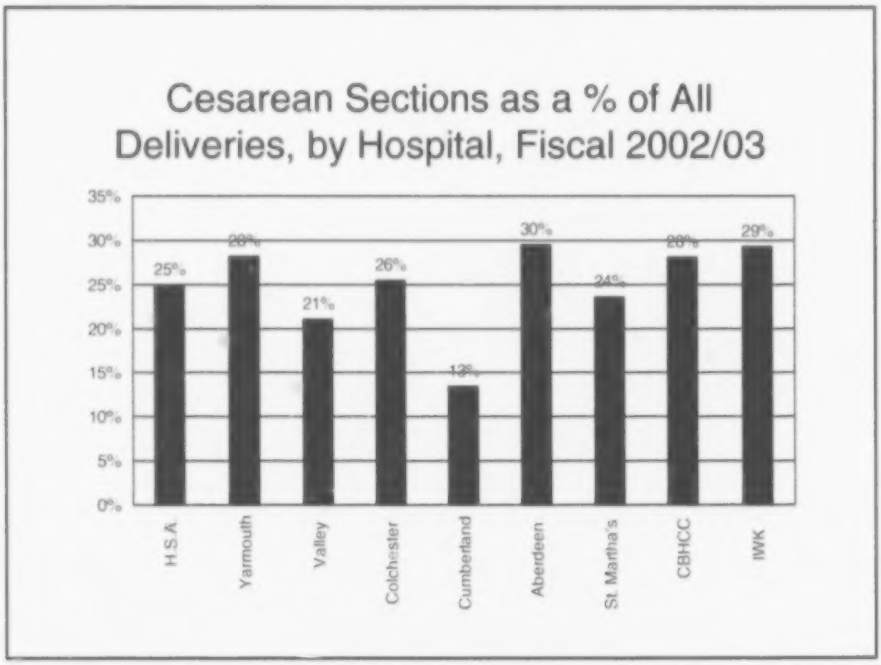
Significance – Rationale and Notes for Interpretation
An elevated number of Caesarean sections may increase the risk of pregnancy and delivery complications (rupture of uterine scar, fatal anaesthesia accidents) during subsequent pregnancies. In some countries sepsis control after C-sections poses additional risks and has been shown to add to maternal mortality. A careful assessment of overall C-section rates and established remuneration mechanisms can help to reduce the amount of undesirable operative deliveries by increasing the compensation for vaginal delivery. The overall risks associated with what would normally be an exceptional intervention would be reduced.[7]
The overall Caesarean section rate has been climbing for the province since a low of 19.6% in fiscal 1995/96. For 2002/03 the rate for the province is 27%. Small volumes of deliveries and C-sections in a given DHA result in significant variation in C-Section rates. Caution should be used when making comparisons of rates across DHAs.

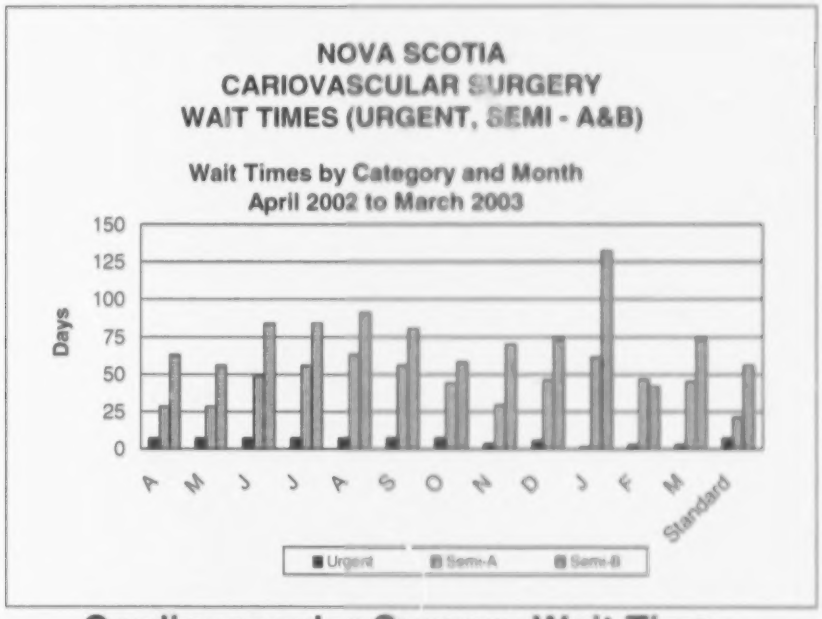
[7] WHO Reproductive Health Focus
http://www.wpro.who.int/themes_focuses/theme2/focus3/about/definitions2.htm

Technical Specifications

Calculation: C-sections were counted using any procedure starting with 5MD60^^. **(**The total number of caesarean sections **/** the total number of deliveries**) X** 100

Source: NSDoH CIHI DAD





Cardiovascular Surgery Wait Times

Definition

1. Maximum wait time in days for cardiovascular surgery for urgent patients by month. **Urgent** patients are critically ill and cannot be discharged from hospital prior to receiving surgery. They have failed maximal medical therapy and remain unstable. The current wait time standard is 7 days. **Semi-Urgent "A"** patients are unstable, have failed medical therapy and are at significant risk of heart attack or heart failure and mortality. In many instances, patients are transferred back to their District hospital while arrangements are being made to have surgery. The current wait time standard is 2-3 weeks. **Semi-Urgent "B"** patients have coronary artery disease and are doing poorly on medical therapy. They would have chest pain walking 1-2 blocks and are incapable of employment. If these patients can exercise greater than 2 mets (a met is a standardized score on a cardiac stress test) but less than 5 mets during a stress ECG test they fall into this category. The current wait time standard is 6-8 weeks.

2. Maximum wait time in days for cardiovascular surgery for elective patients by month. **Elective** patients are stable on medical therapy; unable to work due to cardiac limitations; and felt to further improve with bypass surgery. The current waiting time standard is 3 months.

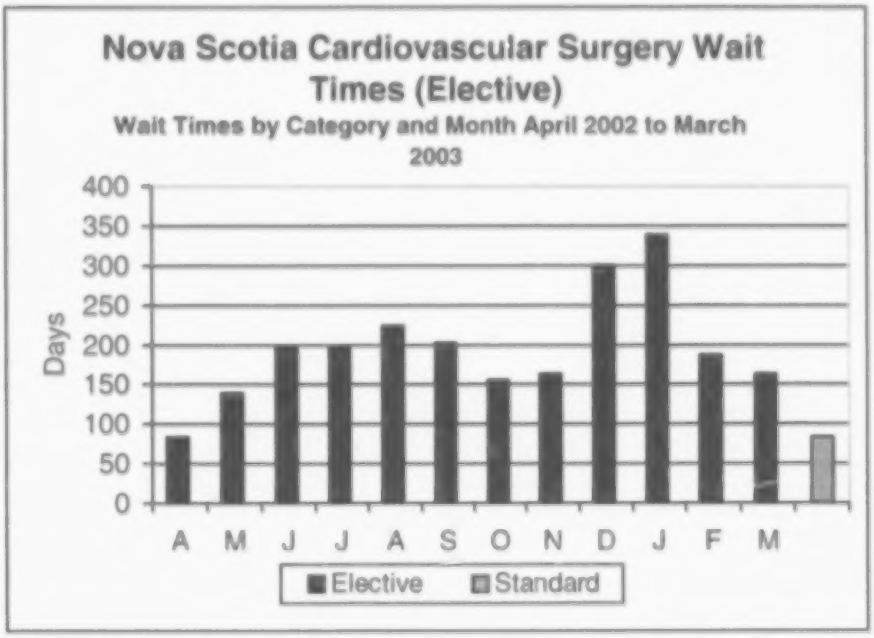
Significance – Rationale and Notes for Interpretation

Systematic collection and comparison of wait time data is complex. Historically, different groups have defined and monitored wait times in different ways. For example, some calculate wait times from when a person first visits a family doctor. Others start the clock when the patient is assessed by a specialist or when test results confirm the need for further treatment or from some other point. There are advantages and disadvantages to each approach. Nonetheless, such differences have to be reconciled if meaningful comparisons between jurisdictions are to be made.

Technical Specifications

Calculation: The total number of days waiting between the procedure booking date (by the referring physician) and the date of the procedure.

Source: Divisions of Cardiology and Cardiovascular Surgery, QEII Health Sciences Centre Monthly Wait Times



Section 6
Insured Programs Indicators

Insured Programs expenditures can be measured by examining the cost and number of insured services provided to Nova Scotia residents.

Expenditures for Insured Programs data is based on the date the service occurred.

Physician services expenditure data include:

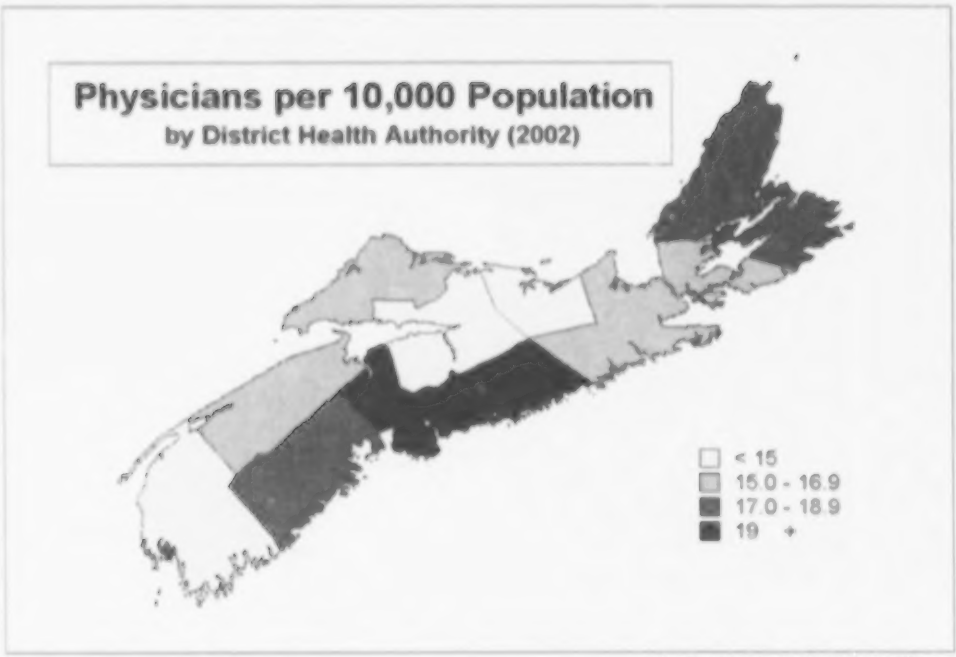
- the amount paid by the Province of Nova Scotia to physicians for insured services to Nova Scotia residents in-province, out-of-province, or out-of-country, unless otherwise stated.
- expenditures for Fee-for-Service, Alternate Funded physician groups, Canadian Medical Protective Assoc. and Benefit Funds, Rural Stabilization, Emergency Room services, and miscellaneous accounting adjustments.

Physician services expenditure data exclude:

- all federal payment categories as services provided to members of the Royal Canadian Mounted Police (RCMP) and Armed Forces personnel, as their services are funded federally.
- physician payments not the responsibility of the Department of Health. These exclusions include services for Workers Compensation Board, Community Services and services provided to residents of other provinces and territories.

Seniors' Pharmacare program includes both the Department of Health expenditures and Seniors' contributions.

Population data is from Statistics Canada's estimates as of July 1st each year.



Nova Scotia Department of Health, October 2003

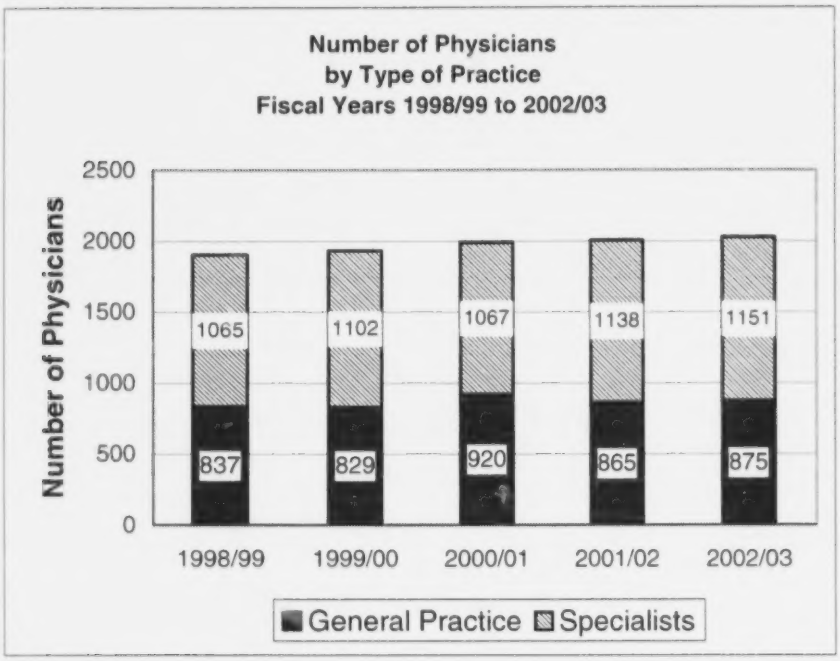
Physicians per 10,000 Population

Definition
Map of population per physician, including specialists, by district health authority.

Significance – Rationale and Notes for Interpretation
Population per health care professional is used as an indicator of relative access to the health care system. Reflecting the location of the province's tertiary facilities and the vast majority of medical specialists, the population per physician is lowest within the Capital district, indicating greater access. The highest population per physician (least access) occurs in the southwest portion of the province (DHA 2). Note: On its own, population per professional does not indicate whether or not there are sufficient numbers of heath professionals in a given area.

Technical Specifications
Calculation: (Number of Physicians / Population) X 10,000

Source: Statistics Canada, Nova Scotia Department of Health



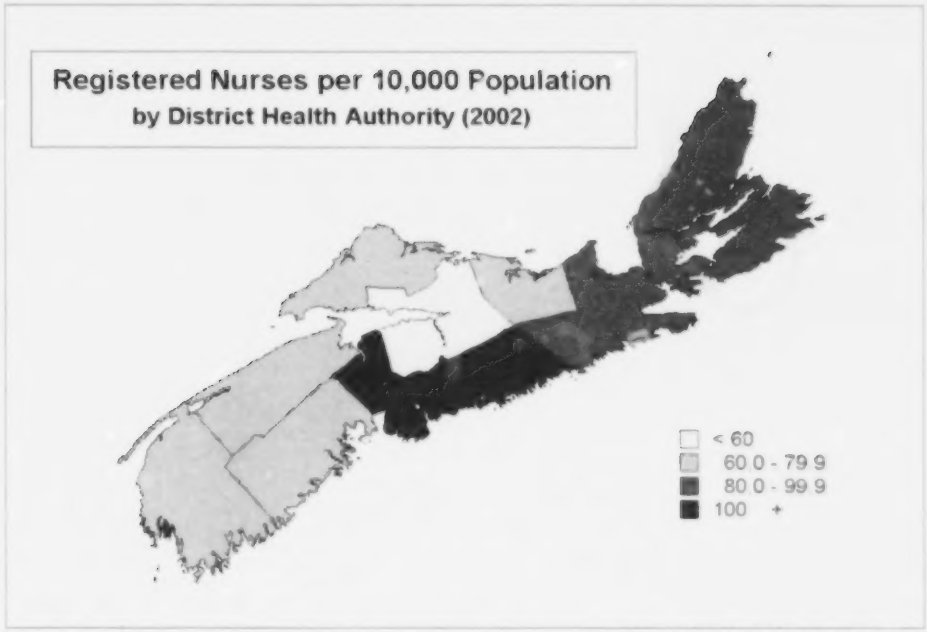
Physicians' Services: Number of Physicians by type of Practice

Definition
The annual number (head count) of physicians paid by the Province of Nova Scotia for insured services delivered to Nova Scotia residents in-province.

Significance – Rationale and Notes for Interpretation
Total number includes any physician (full time, part time, locum) who was paid by the province during the fiscal year.
Type of Practice is based on Functional Specialty. Functional Specialty is intended to reflect the specialty that the physician practices for the greatest percentage of his/her time. It may not be consistent with the physician's licensed specialty. General Practitioners functioning primarily as Emergency Room physicians are included in the specialists count not in the General Practice count.

Technical Specifications
Calculation: Head count of physicians by functional specialty. (Physicians not paid by Department of Health are excluded)

Source: NS DoH, Health Economics, Annual Statistical Tables



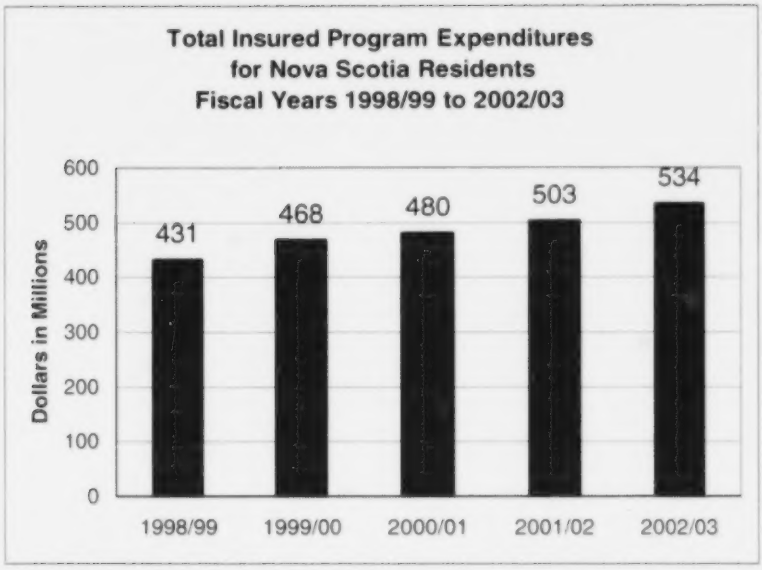
Registered Nurse per 10,000 population

Definition
Map of population per registered nurse by district health authority.

Significance – Rationale and Notes for Interpretation
Population per health care professional is used as an indicator of relative access to the health care system. Reflecting the location of the province's tertiary, the population per registered nurse is lowest within the Capital district, indicating greater access. The highest population per registered nurse (least access) occurs in Colchester East Hants (DHA 4). Note: On its own, population per professional does not indicate whether or not there are sufficient numbers of heath professionals in a given area.

Technical Specifications
Calculation: (Number of Registered Nurses / Population) X 10,000

Source: Statistics Canada, Nova Scotia Department of Health



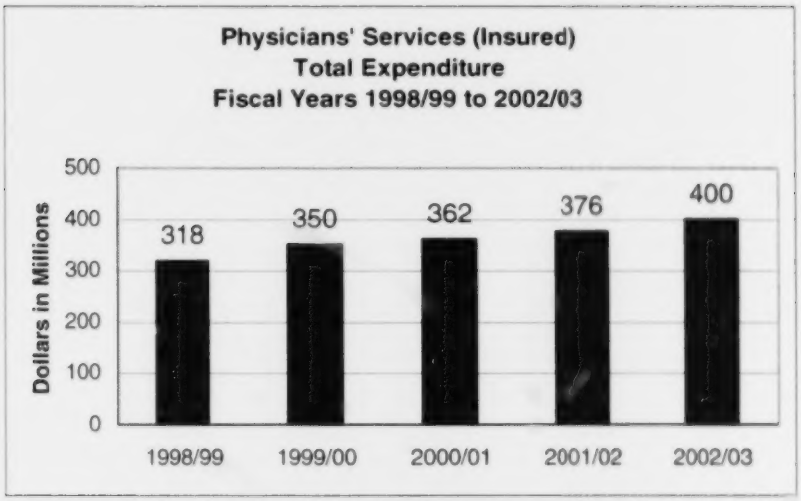
Insured Services: Total Expenditures for Insured Services

Definition
This measure refers to the total annual expenditures for the following Insured programs: Physician Services, Dental (Children's Oral Health, Dental Surgery, and Special Dental Programs), Optometry, Pharmacare (Seniors and Special Assistance Programs), and Prosthetics.

Significance – Rationale and Notes for Interpretation
This data shows annual program expenditures for insured services in Nova Scotia. Government health care expenditures have increased by over 100 million dollars since 1997/98. Pharmacare data includes Drug Cost, Dispensing Fees and Special Funding Assistance Programs. This represents both the Department of Health expenditure and Seniors' contributions for the Pharmacare programs. Dental, Optometric, and Prosthetics services include miscellaneous accounting adjustments.

Technical Specifications
Calculation: Total program expenditures for insured services per fiscal year, expressed in millions of dollars.
Source: NS DoH, Health Economics, Annual Statistical Tables.

Disclosures
Inclusions: Physician data includes Fee-for-Service and Alternate Funded physician groups, Canadian Medical Protective Assoc. and Benefit Funds, Rural Stabilization, Emergency Room, and miscellaneous accounting adjustments.



Physicians' Services: Total Expenditure for Insured Physicians' Services

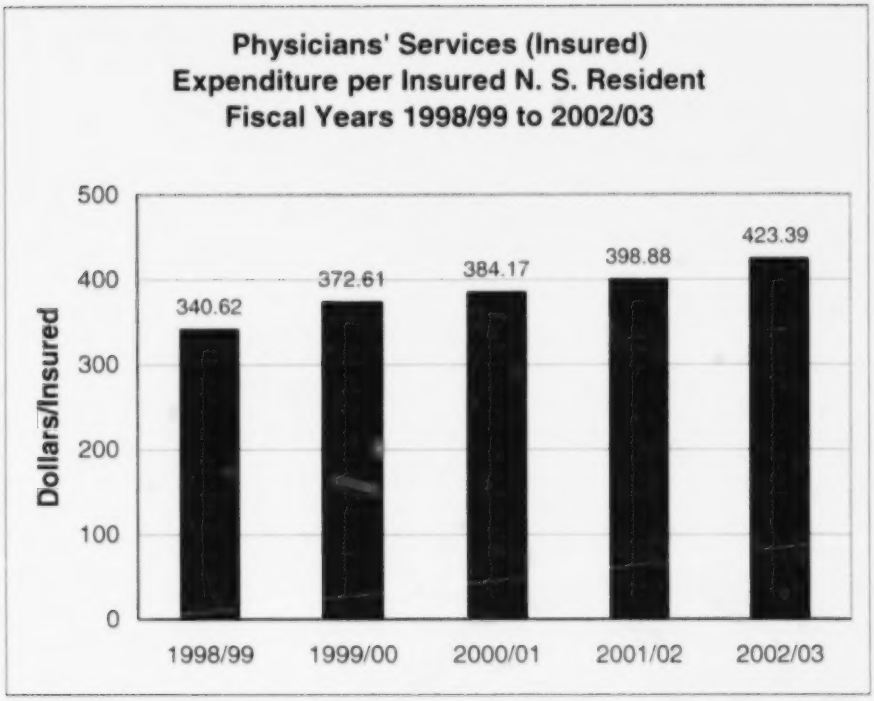
Definition
This data represents the total annual payments to physicians for insured physician services provided by physicians to Nova Scotia residents in-province, out-of-province and out-of-country.

Significance – Rationale and Notes for Interpretation
Total expenditures for physician services provide a means of tracking expenditure trends. As noted by the above graph, physician total expenditures have increased each year.

Technical Specifications
Calculation: Total amount paid to physicians expressed in millions of dollars.
Source: NS DoH, Health Economics, Annual Statistical Tables.

Disclosures
Inclusions: Physicians' payments for Fee-for-Service and Alternate Funded physician groups, Canadian Medical Protective Assoc. and Benefit Funds, Rural Stabilization, Emergency Room, and miscellaneous accounting adjustments.

Exclusions: This measure excludes physician payments not the responsibility of the Department of Health. These exclusions include services for Workers Compensation Board, Community Services, RCMP and Canadian Armed Forces personnel as their services are federally funded, and services provided to residents of other provinces and territories.



Physicians' Services: Expenditure per Insured Nova Scotia Resident

Definition:
This data represents the annual expenditure per person for insured physician services provided by physicians to Nova Scotia residents in-province, out-of-province, and out-of-country.

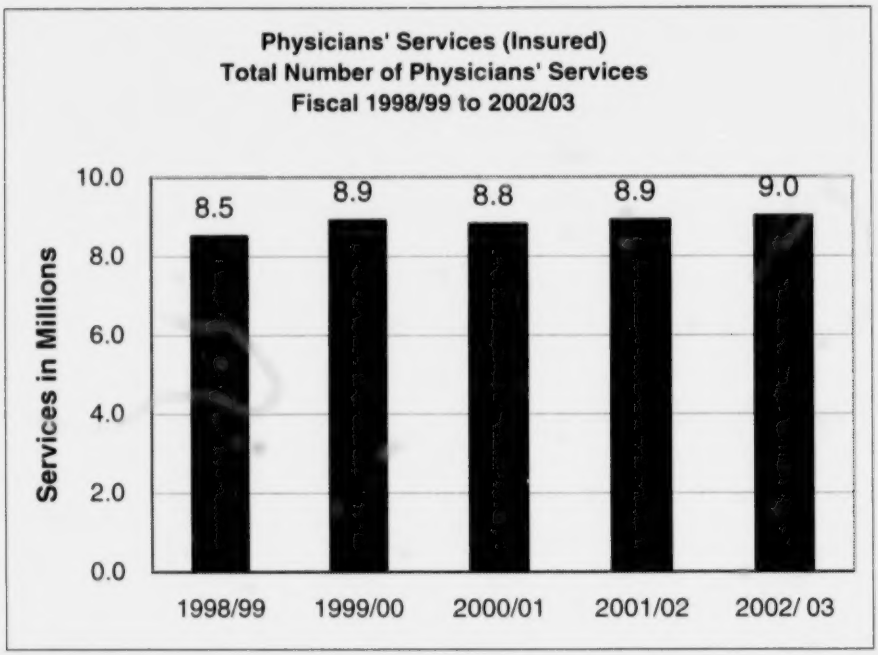
Significance – Rationale and Notes for Interpretation
Expenditures per insured Nova Scotia resident provides an indication of the dollars spent per insured resident. As noted by the above graph, physician expenditures per insured NS resident have increased each year.

Technical Specifications
Calculation: (Total physician expenditure / number insured persons in Nova Scotia) expressed in dollars and cents.

Source: NS DoH, Health Economics, Annual Statistical Tables, Statistics Canada Census Population.

Disclosures
Inclusions: Physicians' payments for Fee-for-Service and Alternate Funded physician groups, Canadian Medical Protective Assoc. and Benefit Funds, Rural Stabilization, Emergency Room, and miscellaneous accounting adjustments.

Exclusions: This measure excludes physician payments not the responsibility of the Department of Health. These exclusions include services for Workers Compensation Board, Community Services, RCMP and Canadian Armed Forces personnel as their services are federally funded, and services provided to residents of other provinces and territories.



Physicians' Services: Total Number of Insured Services

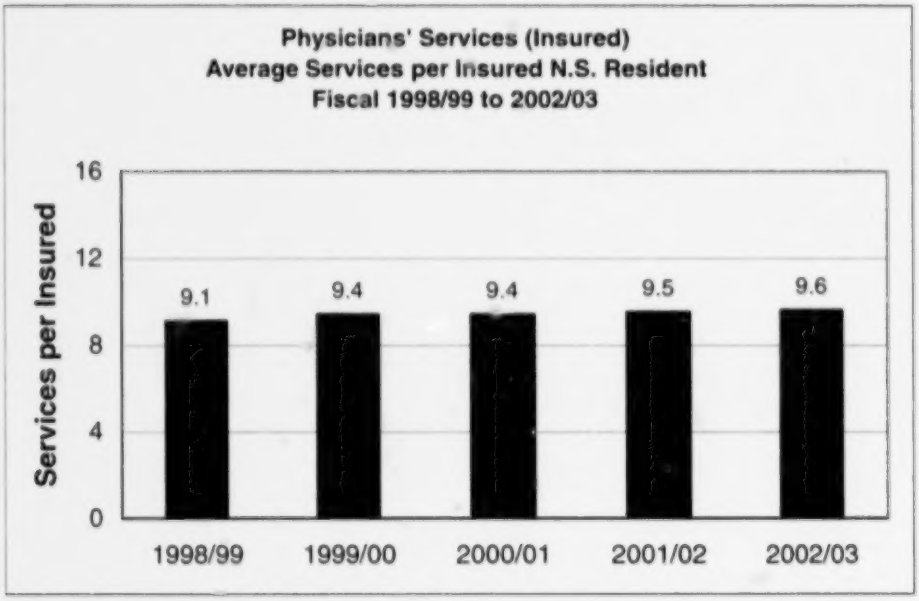
Definition
The total annual number of insured individual services from billings submitted by Nova Scotia physicians for Nova Scotia residents in-province and for physician services refunded to residents provided while in the Province of Quebec or out-of- country.

Significance – Rationale and Notes for Interpretation
The total number of insured physician services provided to Nova Scotia residents is representative of the utilization of physician service resources. In 1999/00 the following fees were introduced: Pap Smear Tray Fee, Provincial Immunization Injections, and Immunization Tray Fee. Some services may not be included as they are not available for some Alternate Funded arrangements.

Technical Specifications
Calculation: Total number of services.
Source: NS DoH, Health Economics, Annual Statistical Tables.

Disclosures
Inclusions: Services from Fee-for-Service, Alternate Funded physician groups, NonPatient Specific in-patient and out-patient services, and physician services where a Nova Scotia resident was refunded the cost of a service provided in the Province of Quebec or out-of-country.

Exclusions: Physician services where the payment is not the responsibility of the Department of Health. These exclusions include services for Workers Compensation Board, Community Services, RCMP and Canadian Armed Forces personnel as their services are federally funded, services to residents of other provinces and territories, and services provided to Nova Scotia residents in the 8 provinces and 3 territories under the Reciprocal Billing agreement.



Physicians' Services: Average Number of Insured Services per Nova Scotia Resident

Definition
The annual number of insured services per insured Nova Scotia resident.

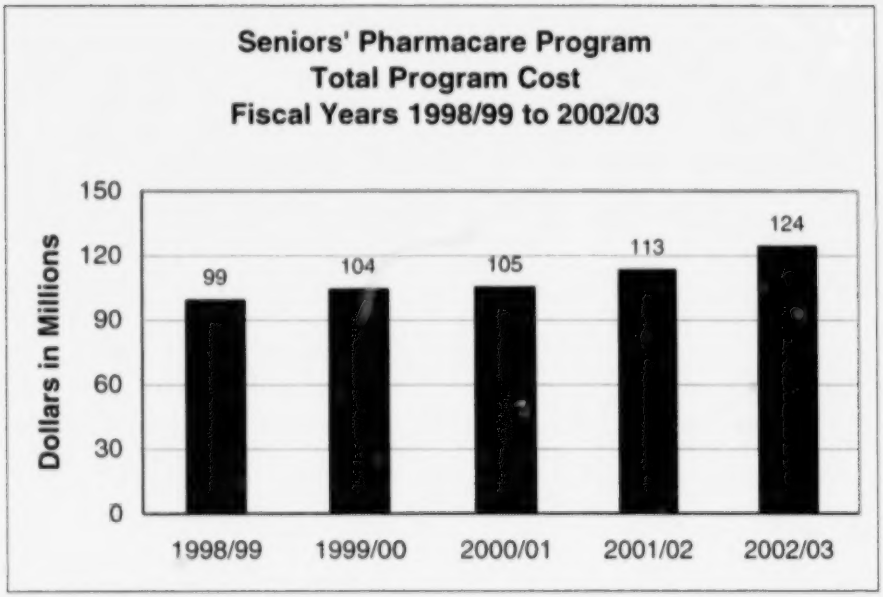
Significance – Rationale and Notes for Interpretation
Insured physician services per Nova Scotia resident are representative of the average utilization of physician services per person. In 1999/00 the following fees were introduced: Pap Smear Tray Fee, Provincial Immunization Injections, and Immunization Tray Fee. Some services may not be included as they are not available for some Alternate Funded arrangements.

Technical Specifications
Calculation: Total number of services divided by the insured population.
Source: NS DoH, Health Economics, Annual Statistical Tables.

Disclosures

Inclusions: Services from physician payments for Fee-for-Service, Alternate Funded physician groups, NonPatient Specific in-patient and out-patient services, and physician services where the resident was refunded the cost of a service provided in the Province of Quebec or out-of- country.

Exclusions: Physician services where the payment is not the responsibility of the Department of Health. These exclusions include services for Workers Compensation Board, Community Services, RCMP and Canadian Armed Forces personnel as their services are federally funded, services to residents of other provinces and territories, and to Nova Scotia residents in the 8 provinces and 3 territories under the Reciprocal Billing agreement.

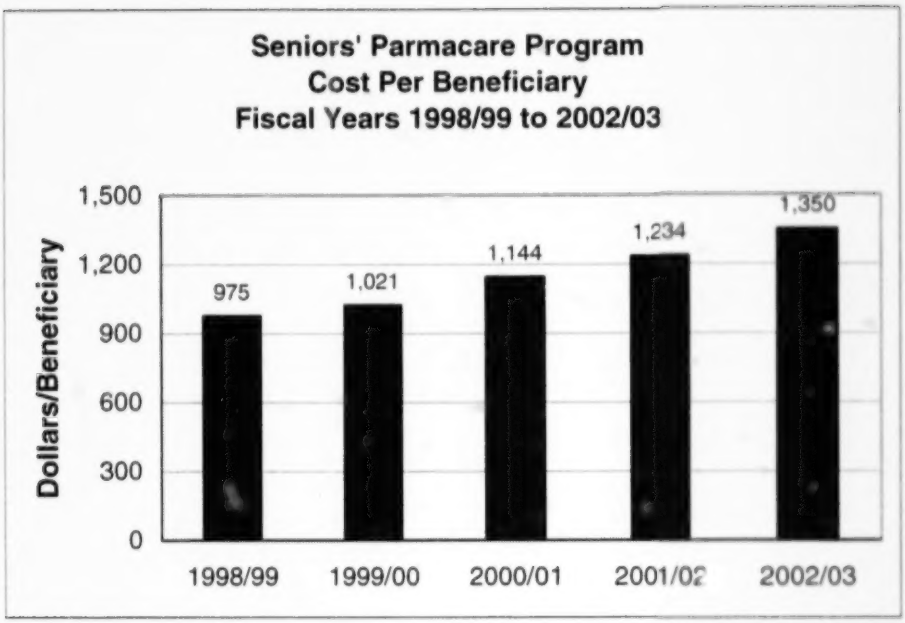


Seniors' Pharmacare Program: Total Program Cost

Definition
The Nova Scotia Seniors' Pharmacare Program is a provincial drug insurance plan that helps seniors with the cost of their prescription drugs. The Program covers drugs listed as benefits in the Nova Scotia Formulary. This measure indicates the total annual expenditure for the Program.

Significance – Rationale and Notes for Interpretation
This data is representative of the total expenditure for the Seniors' Pharmacare Program. As the graph notes, Program cost continues to increase. Statistical data represents the Total Program cost including amount paid by seniors and the Department of Health's contribution. Financial adjustments for the Audited Financial Statements are not reflected in the statistical system.

Technical Specifications
Calculation: Total Program cost per fiscal year as expressed in millions of dollars. Total Program cost is comprised of Drug Cost, Dispensing Fees, Mark ups and Compounding Fees as reflected in the Decision Support System.
Source: NS DoH, Health Economics, Annual Statistical Tables, Statistics Canada Census population.



Seniors' Pharmacare Program: Program Cost per Beneficiary

Definition

The Nova Scotia Seniors' Pharmacare Program is a provincial drug insurance plan that helps seniors with the cost of their prescription drugs. The Program covers drugs listed as benefits in the Nova Scotia Formulary. This measure indicates the annual average cost per beneficiary for participants in the Program.

Significance – Rationale and Notes for Interpretation

This data is representative of the annual average cost per beneficiary for the Seniors' Pharmacare Program. As the graph notes, Total Program cost continues to increase. Statistical data represents the total cost per beneficiary for the Program revenues paid by seniors plus the Department of Health's contribution. Financial adjustments for the Audited Financial Statements are not reflected in the statistical system.

Technical Specifications

Calculation: Total Program cost divided by the number of unique beneficiaries expressed in dollars.

Source: NS DoH, Health Economics, Annual Statistical Tables

Section 7
Management Information Systems Indicators [8]

The MIS Guidelines are national standards that provide an integrated approach to managing financial and statistical data related to the operations of Canadian health service organizations. They were developed in recognition of the need to improve the effectiveness and efficiency of health service organizations in Canada through better information and measures of productivity.

These guidelines address information at the functional centre and service recipient-specific level, but do not encompass information related to the care, treatment or clinical status of the service recipient, or attempt to quantify or assess the quality of such services.

The indicators found in this section detail how financial and statistical data may be integrated to yield information that is useful for planning, control and evaluation. All functional centre statistics and indicators are designed to provide managers with useful information that can assist them with planning, staffing, budgeting and efficiency management. Indicators link two data elements together to measure performance and to provide information which can be used to facilitate decisions or compare performance.

Here are some definitions that may help your understanding of the information presented in this section:

Functional Center: a subdivision of an organization used in a functional accounting system to record the budget and actual direct expenses; statistics; and/or revenues, if any, which pertain to the function or activity being carried out.

Inpatient Days: the days during which services are provided to an inpatient between the census-taking hours on successive days. The day of admission is counted as an inpatient day but the day of separation is not an inpatient day. When the service recipient is admitted and separated (discharged or died) on the same day, one inpatient day is counted. Inpatient days apply to nursing inpatient functional centres (primary accounts 712*).

Compensation Expense: is the sum of gross salaries expense, benefit contribution expense, purchased compensation expense, and fees for service expense arising from the remuneration of management and operational support personnel, unit-producing personnel, and medical personnel employed by, or under contract to the health service organization.

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[8] The content of this introduction comes, for the most part, from MIS Guidelines: 2003

Compensation: Medical Personnel (Medical Fees): this account is used to record the compensation expense for medical practitioners who provide medical services and who are remunerated by the health service organization on a salary or contractual basis. Excludes medical personnel who fulfill a management role.

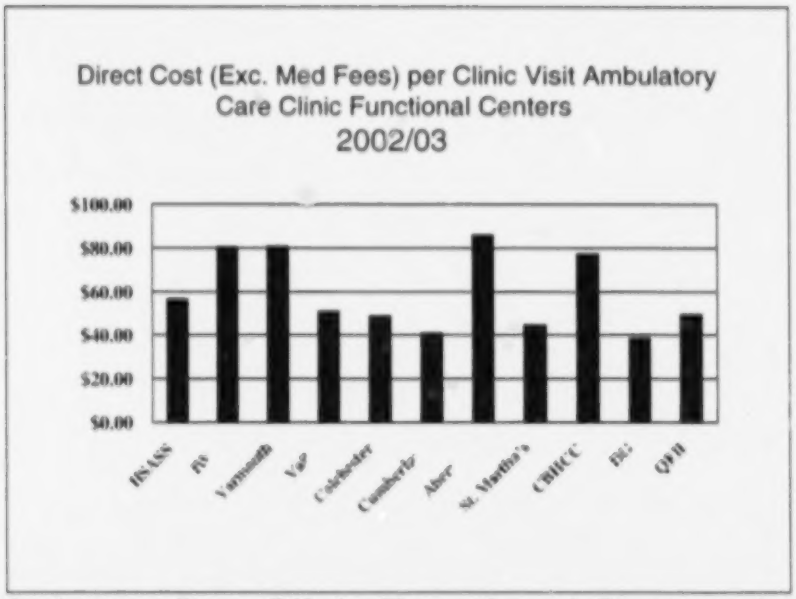
Direct Costs: include all the expenditures for salaries, supplies, equipment, amortization, and other outlays seen in the accounts of the functional centre, including direct expense transfers. Direct costs exclude costs of absorbing cost centres that initially resided in the accounts of transient cost centres, but have subsequently been allocated as indirect expense.

Full-Time Equivalent (FTE): the total earned hours charged to a functional centre, expressed in terms of equivalent full-time positions, according to the health service organization's normal earned hours per full-time position.

The above definition can be expressed by the following formula:

$$FTE = \frac{Total\ Earned\ Hours\ in\ Period}{Normal\ Earned\ Hours\ for\ Period}$$

Workload Unit: one minute of unit-producing personnel time spent performing service recipient and non-service recipient activities of the functional centre.



Ambulatory Care Clinic Functional Centers Acute Care/Hospital Services Fiscal Year 2002/2003

Definition: The average direct cost for a visit to an ambulatory care clinic in acute care.

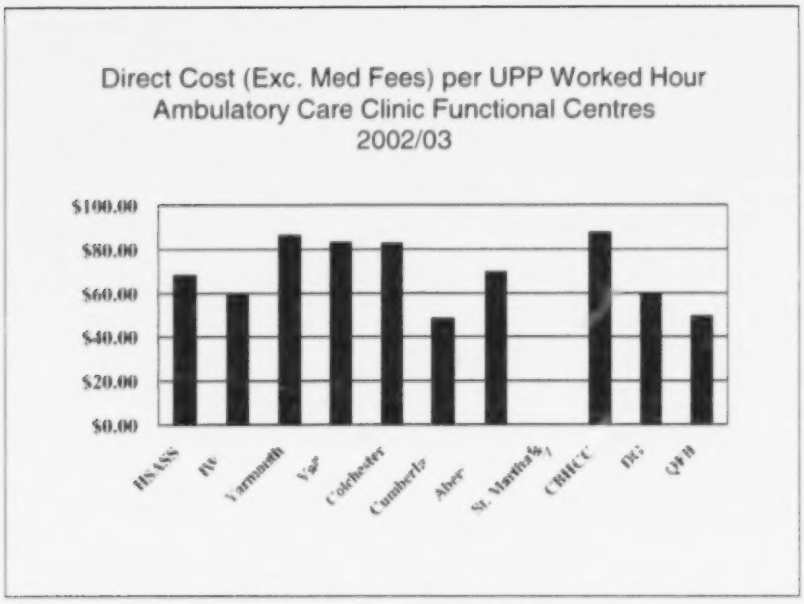
Significance – Rationale and Notes for Interpretation
Used for program planning, evaluating differences in acuity, and monitoring activity based budget projections.

Technical Specifications
Calculation: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to ambulatory care service cost centers (primary accounts 7*350*), divided by the total number of visits (secondary accounts 450*) to ambulatory care services.

$$\frac{Direct\ Cost\ (excluding\ Medical\ Fees)}{Total\ Visits}$$

Source: NS DoH, MIS Database

Note: Use with caution as there are data quality concerns



Definition: The average direct cost of a unit producing personnel (UPP) worked hour in ambulatory care services in acute care.

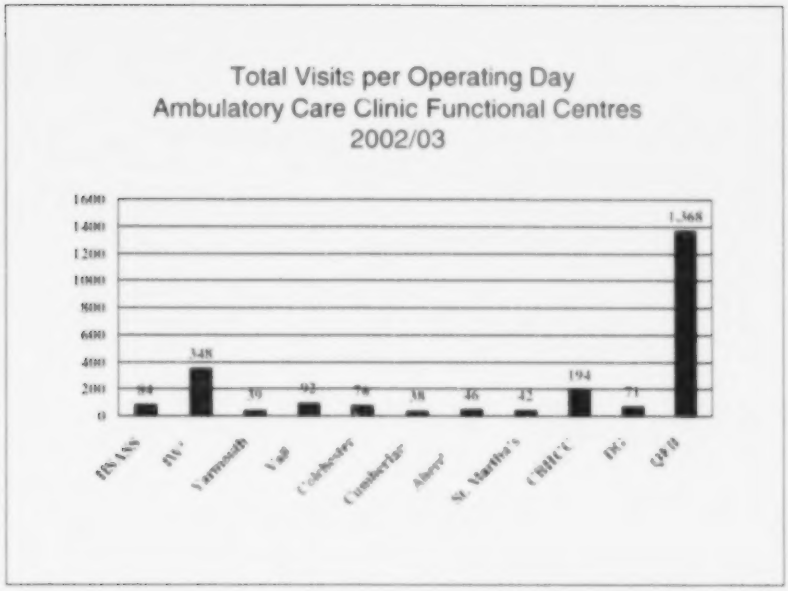
Significance – Rationale and Notes for Interpretation
Used for program planning, budgeting, and evaluation of services.

Technical Specifications
Calculation: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to ambulatory care service cost centers (primary accounts 7*350*), divided by the total number of UPP hours worked (including purchased hours) (secondary accounts 35*10* and 35*90*) in ambulatory care services.

$$\frac{Direct\ Cost\ (excluding\ Medical\ Fees)}{UPP\ Worked\ Hours}$$

Source: NS DoH, MIS Database

Note: Sources of variation could include relative incidence of overtime, staff seniority and/or uniquely expensive supplies. UPP worked hours have been under reported for St. Martha's Regional, distorting their indicator results.



Definition: The average number of visits to an ambulatory care clinic (for acute care) per operating day.

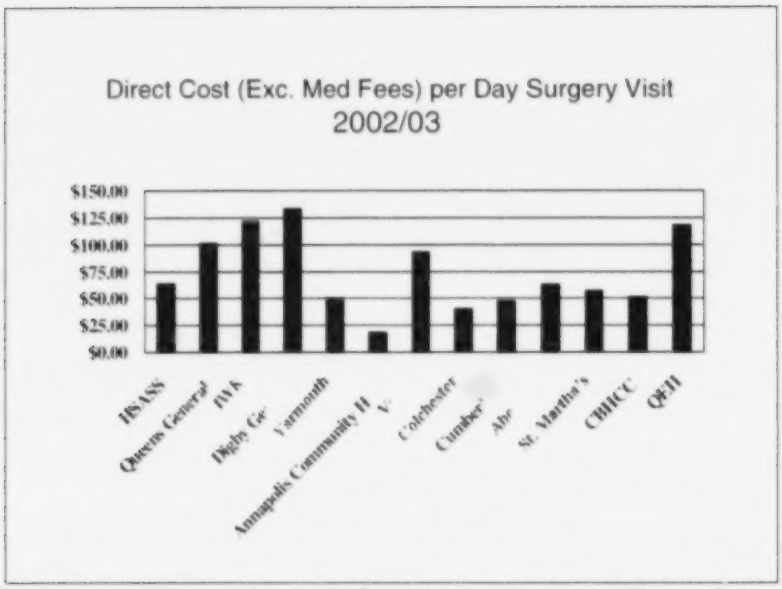
Significance – Rationale and Notes for Interpretation
An indicator of resource use, used in budgeting, planning, and evaluation.

Please use this data with caution as several potential problems have been noted with the recording of ambulatory care visits.

Technical Specifications
Calculation: The total number of visits (secondary accounts 450*) to ambulatory care services (primary accounts 7*350*), divided by the number of operating days (250 in 2002/2003).

$$\frac{\textit{Total Ambulatory Care Visits}}{\textit{Operating Days}}$$

Source: NS DoH, MIS Database



Day Surgery Functional Centers Acute Care/Hospital Services
Fiscal Year 2002/2003

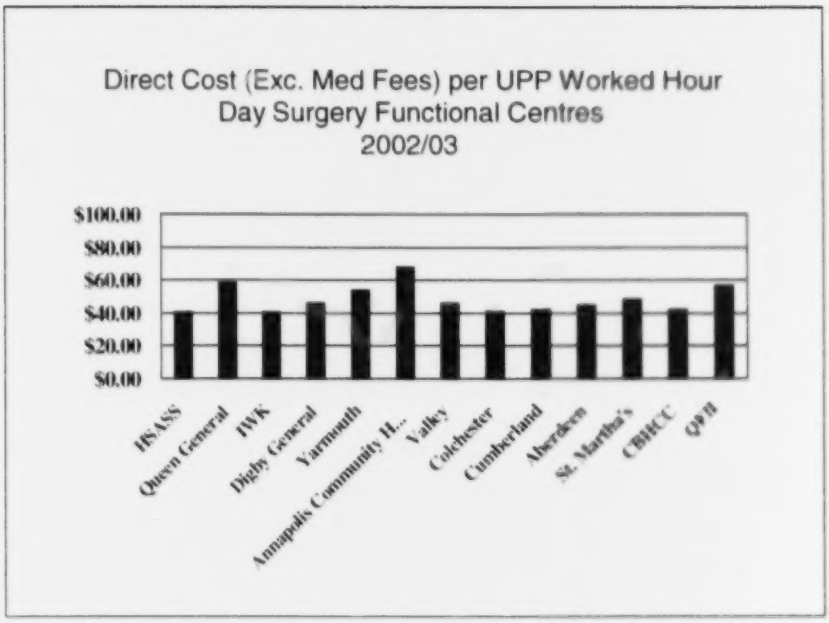
Definition: The average direct cost for a visit to day surgery.

Significance – Rationale and Notes for Interpretation
Used for program planning, evaluating differences in acuity, and monitoring activity based budget projections.

Technical Specifications
Calculation: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to day surgery (primary accounts 7*34020 and 7*34025), divided by the total number of visits (secondary accounts 450*) to day surgery.

$$\frac{Direct\ Cost\ (excluding\ Medical\ Fees)}{Total\ Visits}$$

Source: NS DoH, MIS Database



Definition: The average direct cost of a unit producing personnel (UPP) worked hour in day surgery.

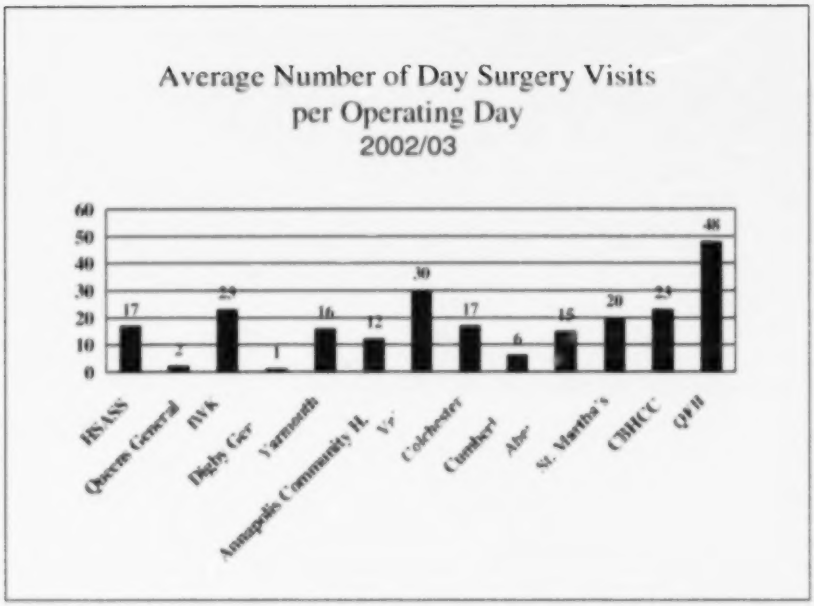
Significance – Rationale and Notes for Interpretation
Used for program planning, budgeting, and evaluation of services.

Sources of variation could include relative incidence of overtime and/or staff seniority.

Technical Specifications
Calculation: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to day surgery cost centres (primary accounts 7*34020 and 7*34025), divided by the total number of UPP hours worked (including purchased hours) (secondary accounts 35*10* and 35*90*) in day surgery.

$$\frac{\textit{Direct Cost (excluding Medical Fees)}}{\textit{UPP Worked Hours}}$$

Source: NS DoH, MIS Database



Definition: The average number of visits to day surgery per operating day.

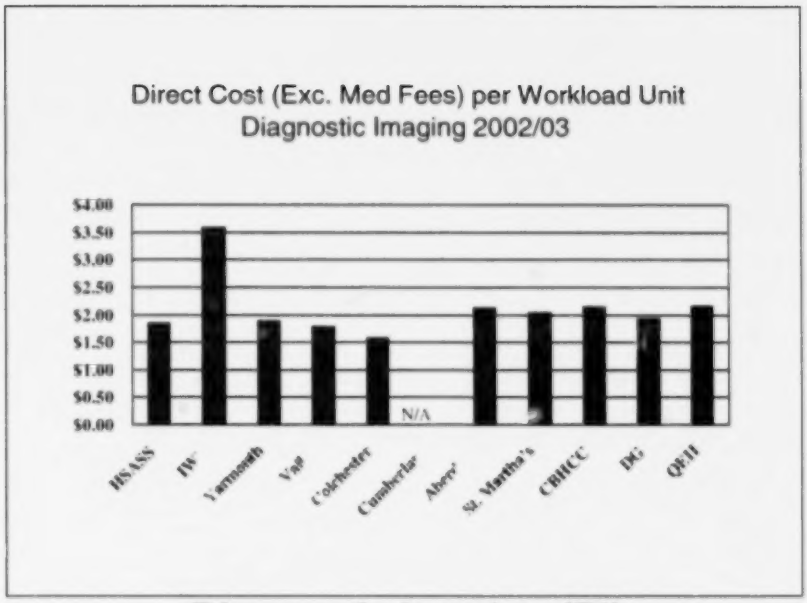
Significance – Rationale and Notes for Interpretation
An indicator of resource use, used in budgeting, planning, and evaluation.

Please use this data with caution as several potential problems have been noted with the recording of ambulatory care visits.

Technical Specifications
Calculation: The total number of visits (secondary accounts 450*) to day surgery (primary accounts 7*34020 and 7*34025), divided by the number of operating days (250 in 2002/2003).

$$\frac{\textit{Total Ambulatory Care Visits}}{\textit{Operating Days}}$$

Source: NS DoH, MIS Database



Diagnostic Imaging (DI)
Fiscal Year 2002/2003

Definition: The average direct cost per diagnostic and therapeutic workload unit for DI.

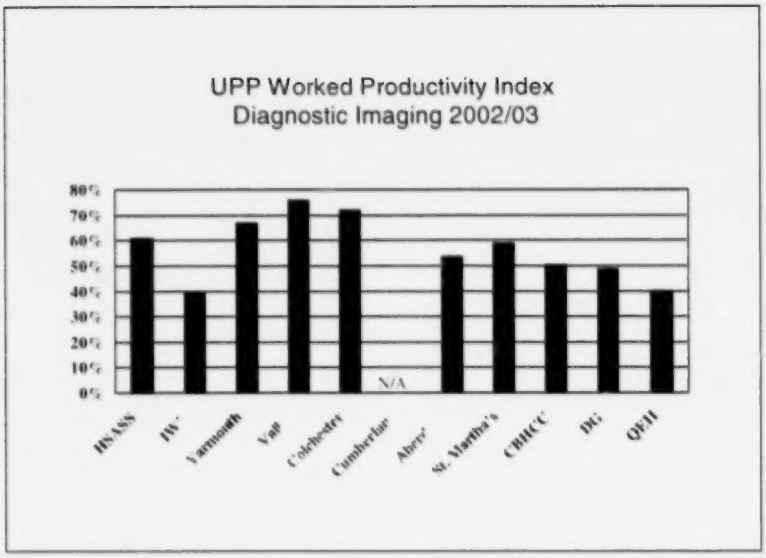
Significance – Rationale and Notes for Interpretation
Used for budgeting, program planning, and the evaluation of services.

Technical Specifications
Calculation: The total operating expenses (secondary accounts 31010* to 99999* excluding medical fees) for DI (primary accounts 7*415*) divided by the total number of diagnostic and therapeutic workload units (secondary accounts 107*) provided by DI.

$$\frac{\textit{Direct Costs}}{\textit{Total Workload Units}}$$

Source: NS DoH, MIS Database

Note: Workload units for Cumberland Regional have been under reported. Data not available.



Definition: The percentage of all unit-producing personnel worked hours and purchased hours spent in the delivery of services to or on behalf of specific service recipients.

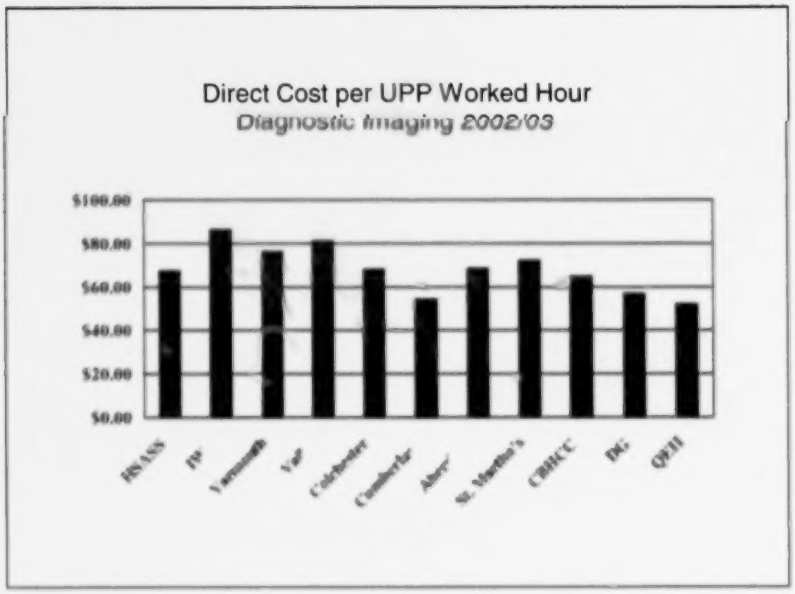
Significance – Rationale and Notes for Interpretation
Used for monitoring appropriate use of staff, for program planning. This index does not address the non-service recipient activities inherent in the delivery of any clinical service. Variations in worked productivity can occur as a result of physical design of the workplace, different procedural practices and/or inappropriate reporting of workload.

Technical Specifications
Calculation: Total diagnostic and therapeutic workload units (secondary accounts 107*) attributable to DI (primary accounts 7*415*) (divided by 60 to convert from minutes into hours), divided by total UPP worked and purchased hours (secondary accounts 35*10* and 35*90*) for DI, all multiplied by 100 (to yield a percentage).

$$\frac{Total\ Workload\ Units/60}{UPP\ Worked\ Hours + UPP\ Purchased\ Hours} \times 100$$

Source: NS DoH, MIS Database

Note: Workload units for Cumberland Regional have been under reported. Data not available.



Definition: The average direct cost of a unit producing personnel (UPP) worked hour in diagnostic imaging.

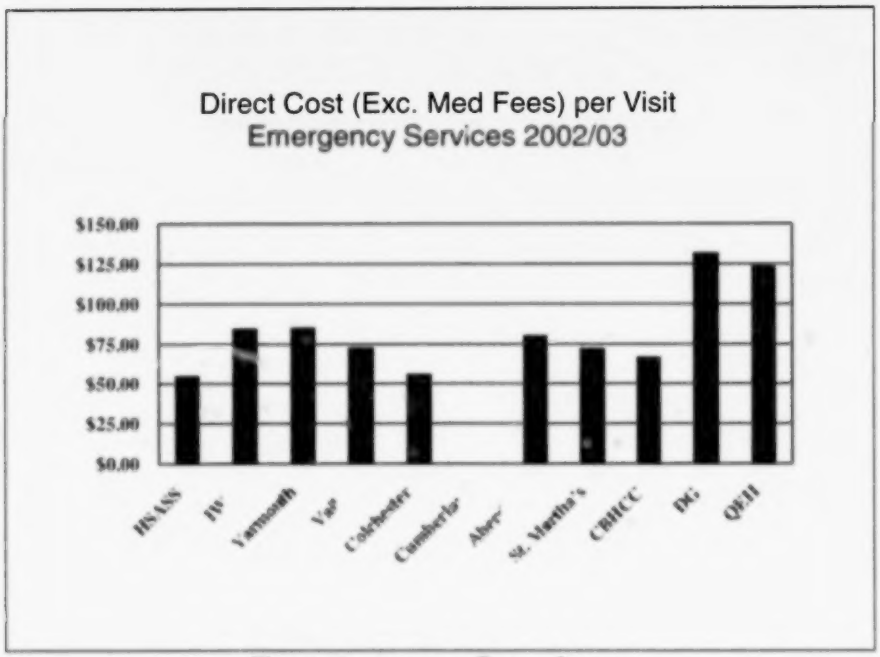
Significance – Rationale and Notes for Interpretation
Used for program planning, budgeting, and evaluation of services.

Sources of variation could include relative incidence of overtime, staff seniority and/or uniquely expensive supplies.

Technical Specifications
Calculation: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to DI cost centres (primary accounts 7*415*), divided by the total number of UPP hours worked (including purchased hours) (secondary accounts 35*10* and 35*90*) in ambulatory care services.

$$\frac{\textit{Direct Cost (excluding Medical Fees)}}{\textit{UPP Worked Hours}}$$

Source: NS DoH, MIS Database



Emergency Services
Fiscal Year 2002/2003

Definition: The average direct cost (excluding medical fees) per emergency room visit.

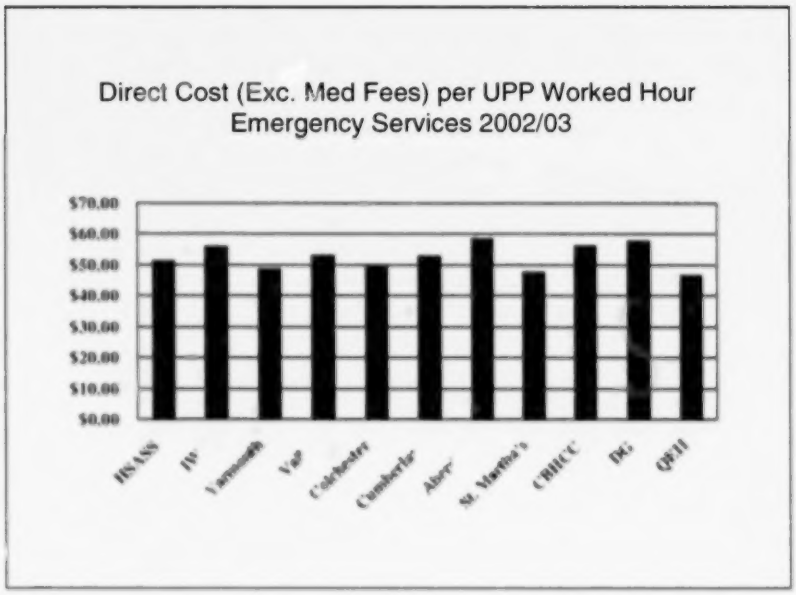
Significance – Rationale and Notes for Interpretation
Used for program planning, evaluating differences in acuity, and monitoring activity based budget projections.

Technical Specifications
Calculation: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to emergency services cost centres (primary accounts 71310*), divided by the total number of emergency visits (scheduled and unscheduled) (secondary accounts 450*).

$$\frac{\textit{Direct Cost (excluding Medical Fees)}}{\textit{Total Emergency Visits}}$$

Source: NS DoH, MIS Database

Note: Cumberland Regional did not report ER visits.



Definition: The average direct cost of a unit producing personnel (UPP) worked hour in emergency services.

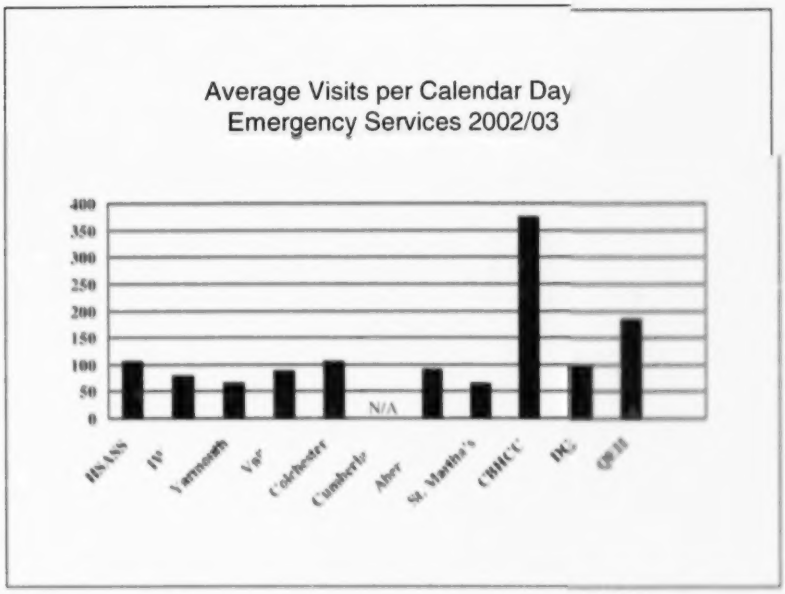
Significance – Rationale and Notes for Interpretation
Used for program planning, budgeting, and the evaluation of services.

Sources of variation could include relative incidence of overtime, staff seniority, and/or uniquely expensive supplies.

Technical Specifications
Calculation: *Calculation*: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to emergency service cost centres (primary accounts 71310*), divided by the total number of UPP hours worked (including purchased hours) (secondary accounts 35*10* and 35*90*) in emergency services.

$$\frac{Direct\ Cost\ (excluding\ Medical\ Fees)}{UPP\ Worked\ Hours}$$

Source: NS DoH, MIS Database



Definition: The average number of emergency visits per calendar day.

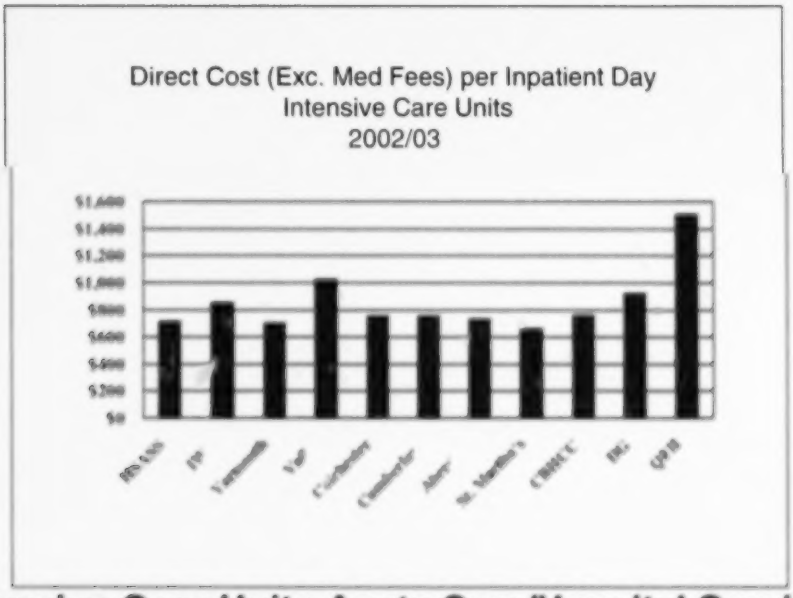
Significance – Rationale and Notes for Interpretation
An indicator of resource use, used in budgeting, planning, and evaluation.

Technical Specifications
Calculation: The total number of emergency visits (secondary accounts 450* attributable to primary accounts 71310*) divided by the number of days in a year (365).

$$\frac{\textit{Total Emergency Visits}}{\textit{Calender Days}}$$

Source: NS DoH, MIS Database

Note: Cumberland Regional did not report ER visits. ER visits for Cape Breton Health Care Complex appear over stated.



Intensive Care Units Acute Care/Hospital Services Fiscal Year 2002/2003

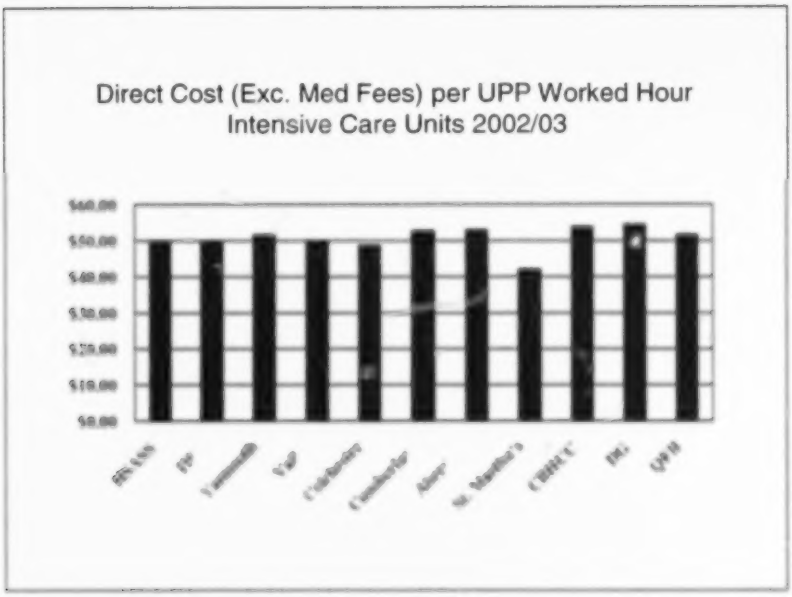
Definition: Direct cost per inpatient day in an intensive care unit.

Significance – Rationale and Notes for Interpretation
An indicator of complexity, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: Total direct costs (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to intensive care unit (ICU) cost centres (primary accounts 7*240*) divided by the number of inpatient days (secondary account 403*).

$$\frac{Direct\ Costs\ (excluding\ medical\ fees)}{Inpatient\ Days}$$

Source: NS DoH, MIS Database



Definition: The average direct cost of a unit producing personnel (UPP) worked hour in an intensive care unit (ICU)

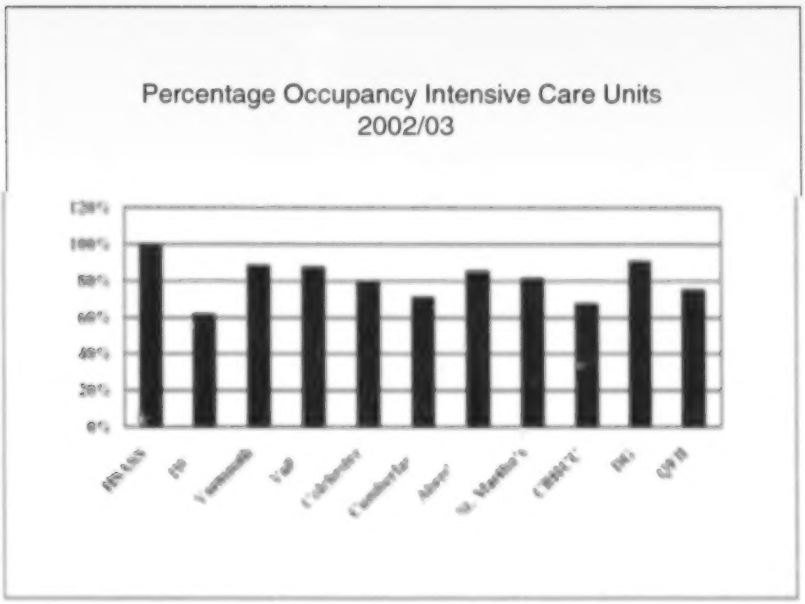
Significance – Rationale and Notes for Interpretation
Used for program planning, budgeting, and evaluation of services.

Sources of variation could include relative incidence of overtime, staff seniority and/or uniquely expensive supplies.

Technical Specifications
Calculation: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to ICU service cost centres (primary accounts 7*240*), divided by the total number of UPP hours worked (including purchased hours) (secondary accounts 35*10* and 35*90*) in ICUs.

$$\frac{\textit{Direct Cost (excluding Medical Fees)}}{\textit{UPP Worked Hours}}$$

Source: NS DoH, MIS Database



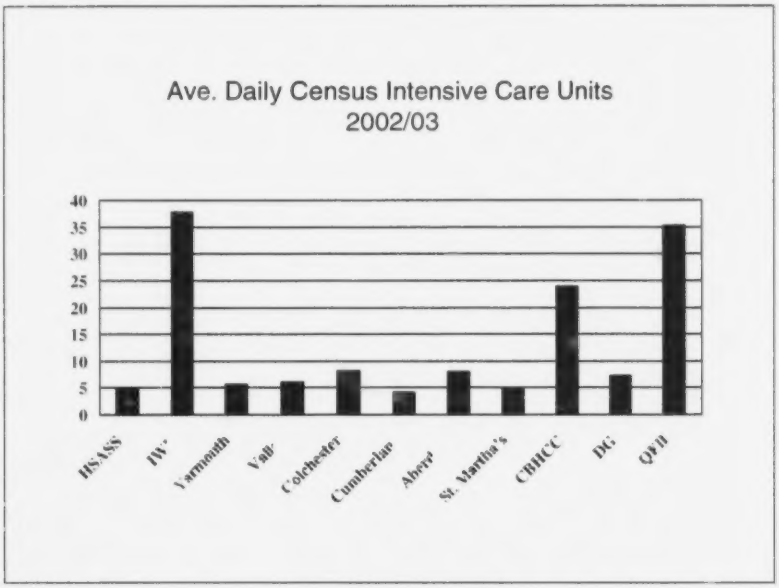
Definition: The percentage of beds which are available and staffed for inpatient accommodation and which are occupied by a service recipient.

Significance – Rationale and Notes for Interpretation
An indicator of resource use, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: The total number of inpatient days (secondary account 403**), divided by the total number of bed days, staffed and in operation (secondary account 827*) for the ICU (primary accounts 7*240*), multiplied by the number of days in the period all multiplied by 100 to yield a percentage.

$$\frac{Inpatient\ \ Days}{Bed\ \ Days\ \ Staffed\ \ and\ \ in\ \ Operation} \times 100$$

Source: NS DoH, MIS Database



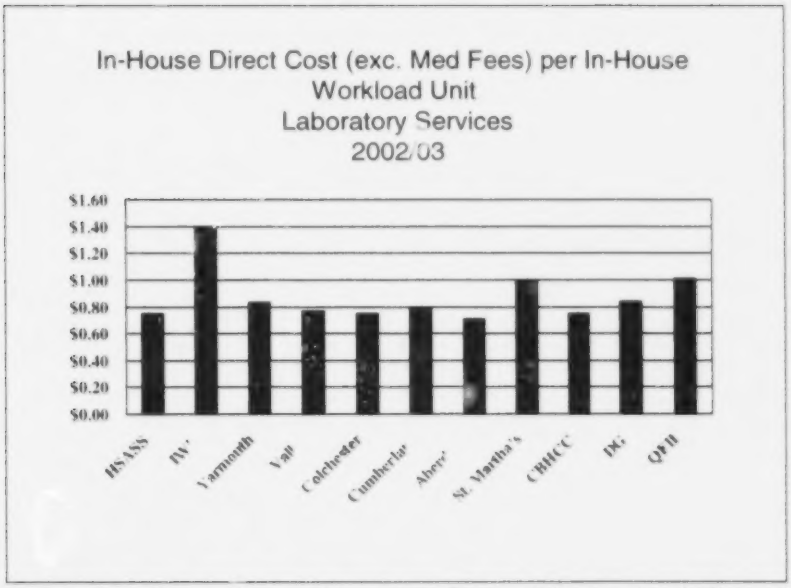
Definition: The average number of inpatients per calendar day.

Significance – Rationale and Notes for Interpretation
An indicator of resource use, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: The total number of inpatient days (secondary account 403*), divided by the number of calendar days (365).

$$\frac{Inpatient\ Days}{Calendar\ Days}$$

Source: NS DoH, MIS Database



Laboratory Services Acute Care/Hospital Services Fiscal Year 2002/2003

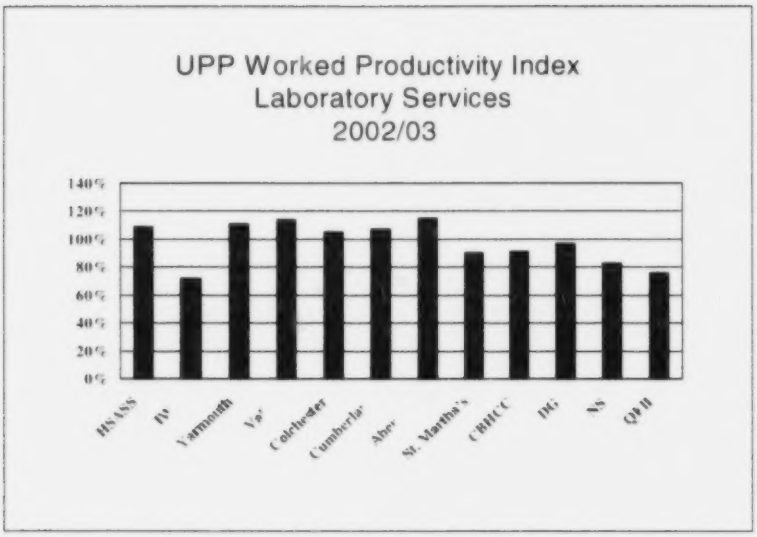
Definition: The average direct cost per in-house workload unit for laboratory services.

Significance – Rationale and Notes for Interpretation
Used for budgeting, program planning, and the evaluation of services.

Technical Specifications
Calculation: The total operating expenses (secondary accounts 31010* to 99999*) excluding medical fees and referred-out costs (secondary accounts 390* and 8*) for laboratory services (primary accounts 71410*), divided by total in-house workload units (secondary accounts 115*) provided by laboratory services.

$$\frac{In-House\ Direct\ Costs\ (Excluding\ Medical\ Fees\ and\ referred-out\ Costs)}{In-House\ Workload\ Units}$$

Source: NS DoH, MIS Database



Definition: The percentage of all unit-producing personnel worked hours and purchased hours spent in the delivery of services to or on behalf of specific service recipients.

Significance – Rationale and Notes for Interpretation
Used for monitoring appropriate use of staff, for program planning.

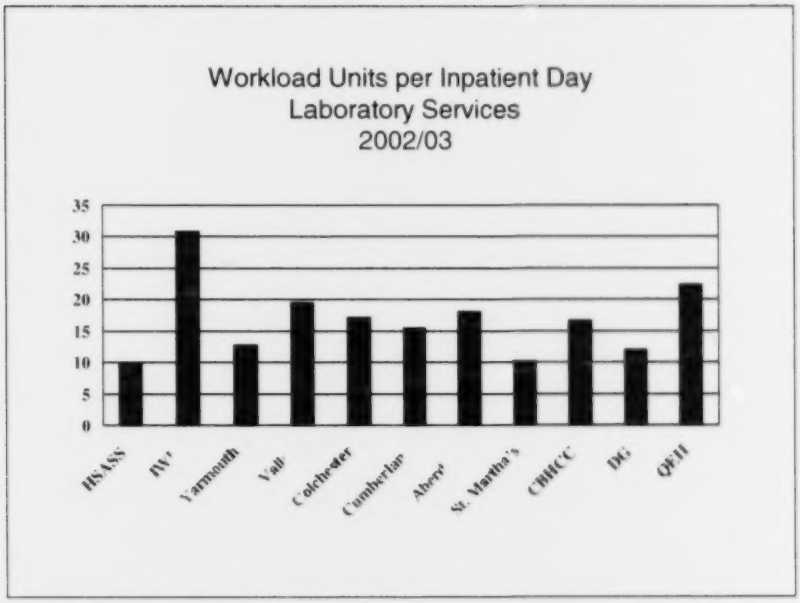
This index does not address the non-service recipient activities inherent in the delivery of any clinical service.

Variations in worked productivity can occur as a result of physical design of the workplace, different procedural practices and/or inappropriate reporting of workload.

Technical Specifications
Calculation: Total workload units (excluding referred-out) (secondary accounts 115*) attributable to laboratory services (primary accounts 71410*) (divided by sixty to convert from minutes into hours), divided by total UPP worked and purchased hours (secondary accounts 35*10* and 35*90*) for laboratory services, all multiplied by 100 (to yield a percentage).

$$\frac{Total\ Workload\ Units\ (excluding\ referred-out)/60}{UPP\ Worked\ Hours + UPP\ Purchased\ Hours} \times 100$$

Source: NS DoH, MIS Database



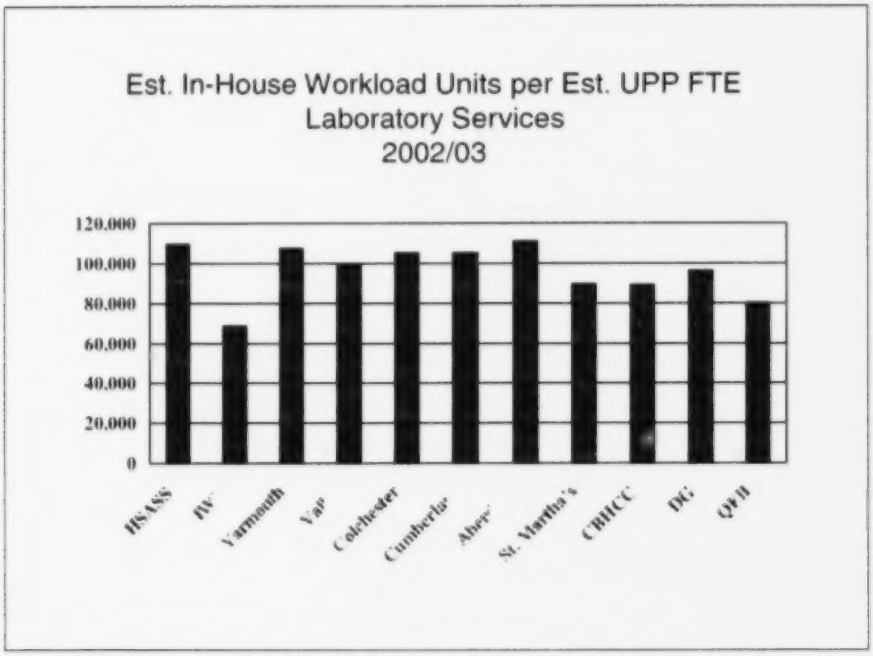
Definition: The average amount of laboratory resources required for each inpatient day.

Significance – Rationale and Notes for Interpretation
An indicator of complexity, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: Total inpatient workload units (secondary accounts 11510* and 15510*) for laboratory services (primary accounts 71410*), divided by the number of inpatient days (secondary account 403*).

$$\frac{\textit{Total Workload Units}}{\textit{Inpatient Days}}$$

Source: NS DoH, MIS Database



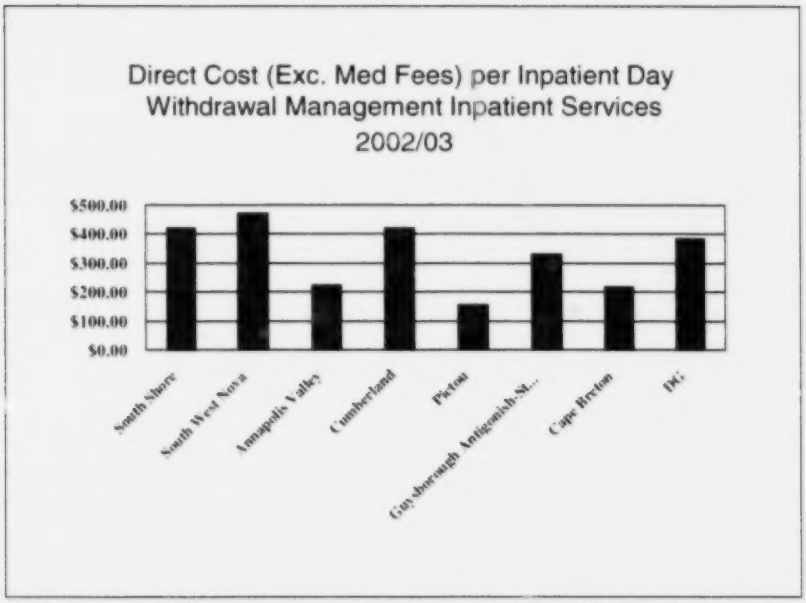
Definition: Average number of in-house workload units per estimated unit producing personnel (UPP) full-time equivalent (FTE).

Significance – Rationale and Notes for Interpretation
Indicates the average number of patient care units that can be provided by one FTE in a specific location. It is useful for budgeting and program planning.

Technical Specifications
Calculation: Total in-house workload units (secondary accounts 115*) attributable to laboratory services (primary accounts 71410*), divided by the number of estimated UPP FTEs in laboratory services. The total number of estimated UPP FTEs can be calculated by dividing the total number of UPP earned hours (secondary accounts 35*) in laboratory services by the "normal" number of UPP earned hours for lab services (the "normal" number of UPP earned hours for 2002/2003 was considered to be 1957.5 hours, based on the assumption that a normal UPP workday is 7.5 hours)

$$\frac{In-House\ Workload\ Units}{UPP\ Earned\ Hours / Normal\ UPP\ Earned\ Hours}$$

Source: NS DoH, MIS Database



Withdrawal Management Inpatient Services Acute Care/Hospital Services
Fiscal Year 2002/2003

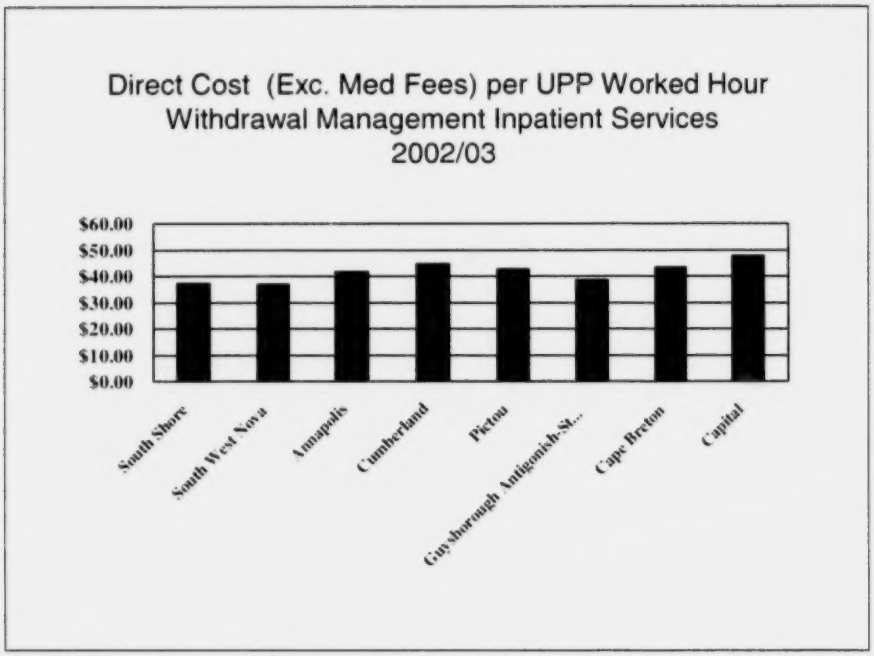
Definition: The average direct cost per inpatient day for addiction services.

Significance – Rationale and Notes for Interpretation
An indicator of complexity, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: Total direct costs (excluding medical fees) attributable to withdrawal management inpatient service cost centers (primary accounts 7*2*, under addictions sector code), divided by the number of inpatient days (secondary account 403*).

$$\frac{Direct\ Costs\ (excluding\ medical\ fees)}{Inpatient\ Days}$$

Source: NS DoH, MIS Database



Definition: The average direct cost per unit producing personnel (UPP) worked hour in withdrawal management inpatient services

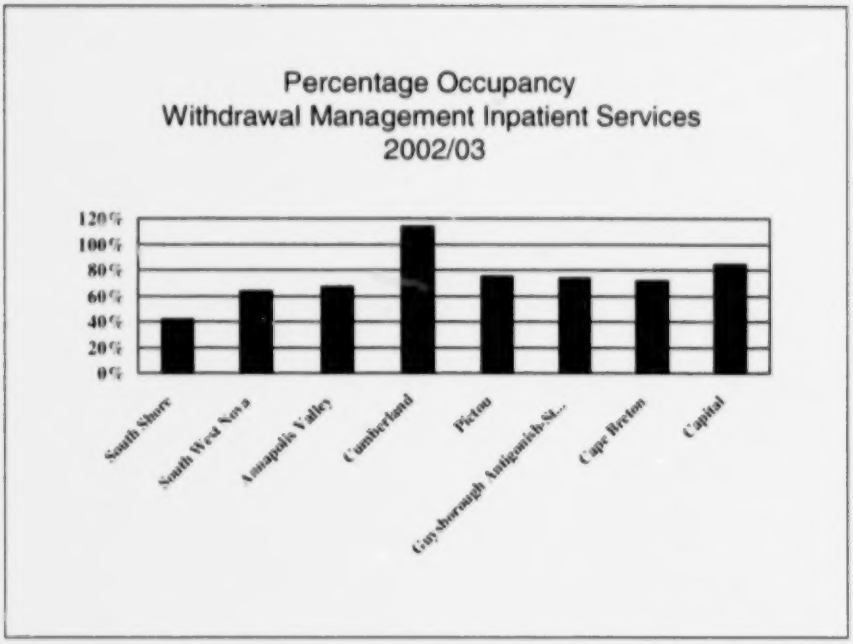
Significance – Rationale and Notes for Interpretation
Used for program planning, budgeting and evaluation of services.

Sources of variation could include relative incidence of overtime, staff seniority, and/or uniquely expensive supplies.

Technical Specifications
Calculation: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to withdrawal management inpatient service cost centers (primary accounts 7*2*, under addictions sector code), divided by the total number of UPP hours worked (including purchased hours) (secondary accounts 35*10* and 35*90*) in withdrawal management inpatient services.

$$\frac{\textit{Direct Cost (excluding Medical Fees)}}{\textit{UPP Worked Hours}}$$

Source: NS DoH, MIS Database



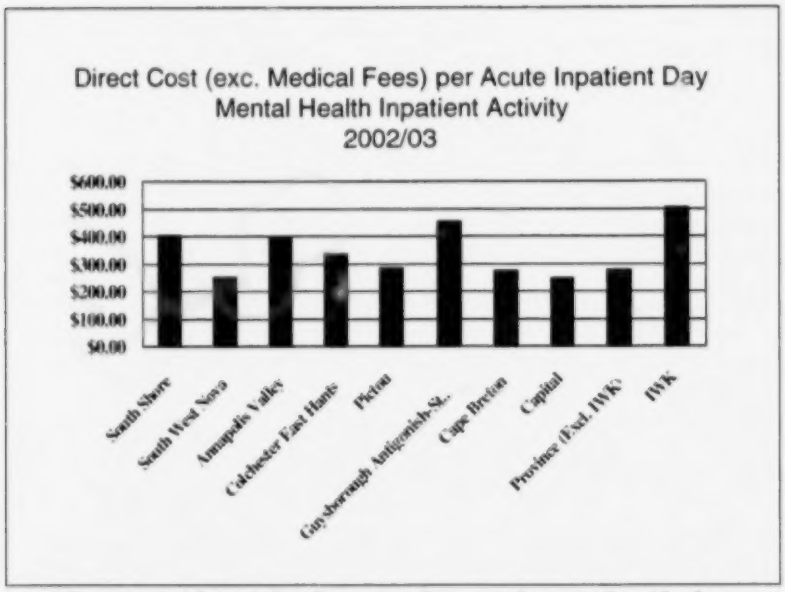
Definition: The percentage of beds which are available and staffed for inpatient accommodation and which are occupied by a service recipient.

Significance – Rationale and Notes for Interpretation
An indicator of resource use, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: The total number of inpatient days (secondary account 403*), divided by the total number of bed days, staffed and in operation (secondary account 827*), attributable to withdrawal management inpatient services (primary accounts 7*2*, under addictions sector code), multiplied by the number of days in the period all multiplied by 100 to yield a percentage.

$$\frac{Inpatient\ \ Days}{Bed\ \ Days\ \ Staffed\ \ and\ \ in\ \ Operation} \times 100$$

Source: NS DoH, MIS Database



Mental Health Acute Inpatient Activity
Fiscal Year 2002/2003

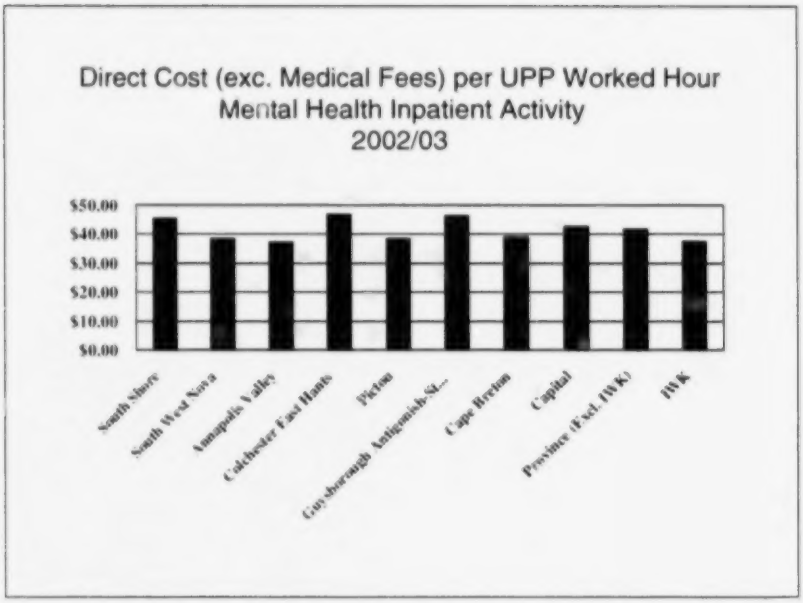
Definition: The average direct cost per acute inpatient day in a psychiatric inpatient unit.

Significance – Rationale and Notes for Interpretation
An indicator of complexity, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: Total direct costs (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to acute mental health cost centres (primary accounts 7*2*, under mental health sector code), divided by the number of inpatient days (secondary account 403*).

$$\frac{Direct\ Costs\ (excluding\ medical\ fees)}{Inpatient\ Days}$$

Source: NS DoH, MIS Database



Definition: The average direct cost of a unit producing personnel (UPP) worked hour in an acute psychiatric inpatient unit.

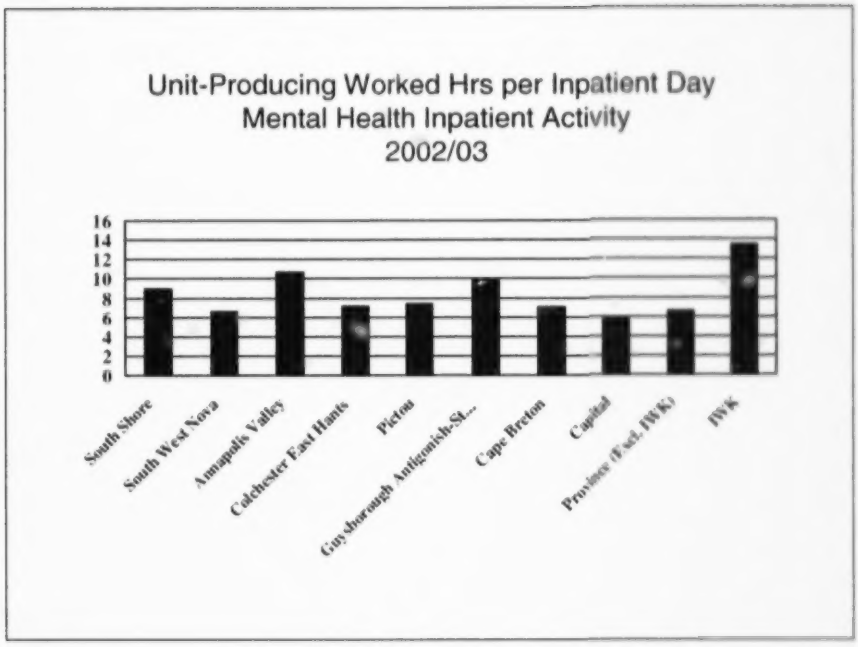
Significance – Rationale and Notes for Interpretation
Used for program planning, budgeting and evaluation of services.

Sources of variation could include relative incidence of overtime, staff seniority, and/or uniquely expensive supplies.

Technical Specifications
Calculation: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to mental health service cost centres (primary accounts 7*2*, under mental health sector code), divided by the total number of UPP hours worked (includes purchased hours) (secondary accounts 35*10* and 35*90*) in psychiatric inpatient unit.

$$\frac{Direct\ Cost\ (excluding\ Medical\ Fees)}{UPP\ Worked\ Hours}$$

Source: NS DoH, MIS Database



Definition: The average length of unit producing personnel (UPP) time (in hours) devoted to one inpatient day of stay.

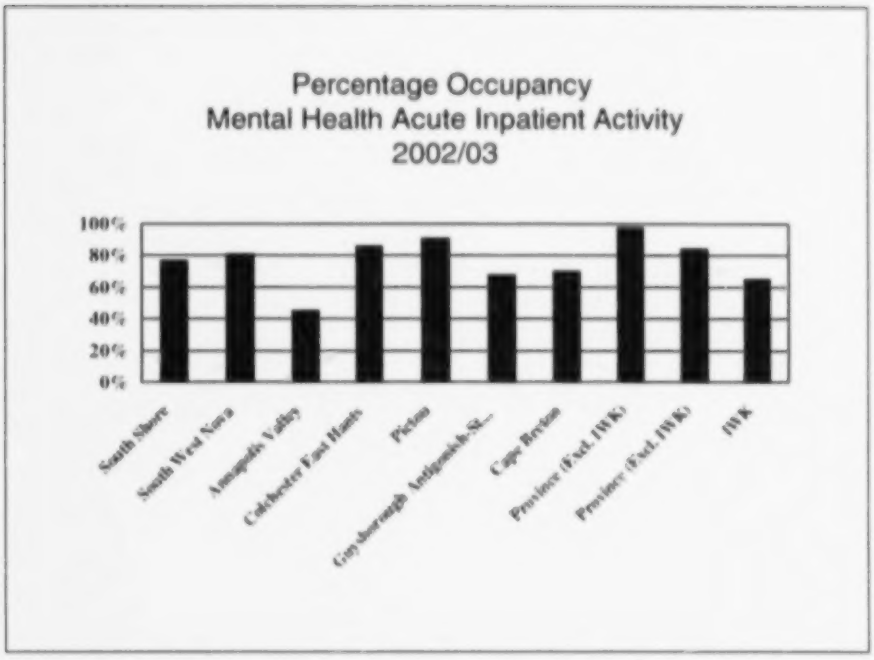
Significance – Rationale and Notes for Interpretation
Indicates the average availability of unit-producing staff for the provision of patient services for a 24-hour period.

An indicator of complexity, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: The number of UPP worked hours (including purchased hours) (secondary accounts 35*10* and 35*90*) attributable to acute care psychiatric inpatient unit (primary accounts 7*2*, under mental health sector code), divided by the total number of inpatient days (secondary account 403*).

$$\frac{\textit{UPP Hours Worked}}{\textit{Inpatient Days}}$$

Source: NS DoH, MIS Database



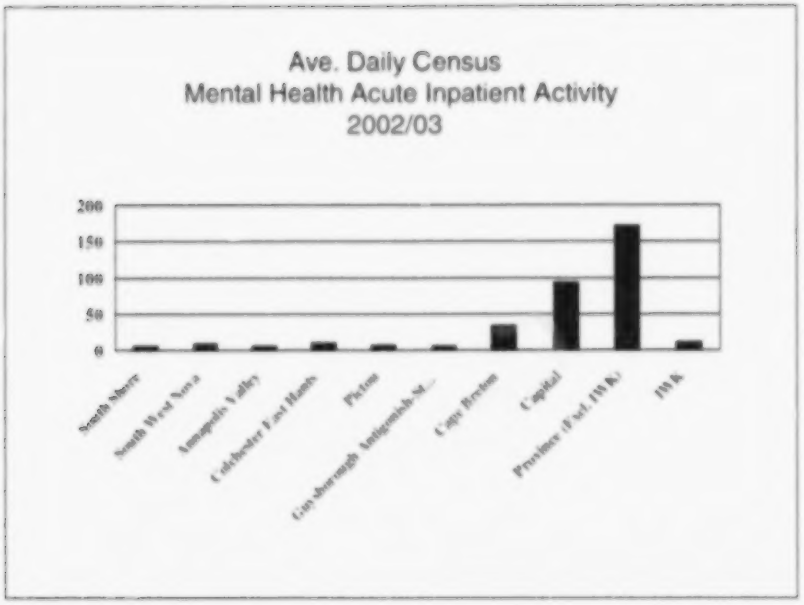
Definition: The percentage of beds which are available and staffed for acute inpatient accommodation and which are occupied by a service recipient.

Significance – Rationale and Notes for Interpretation
An indicator of resource use, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: The total number of inpatient days (secondary account 403*), divided by the total number of bed days, staffed and in operation (secondary account 827*), attributable to acute mental health service cost centers (primary accounts 7*2*, under mental health sector code), multiplied by the number of days in the period all multiplied by 100 to yield a percentage.

$$\frac{Inpatient\ Days}{Bed\ Days\ Staffed\ and\ in\ Operation} \times 100$$

Source: NS DoH, MIS Database



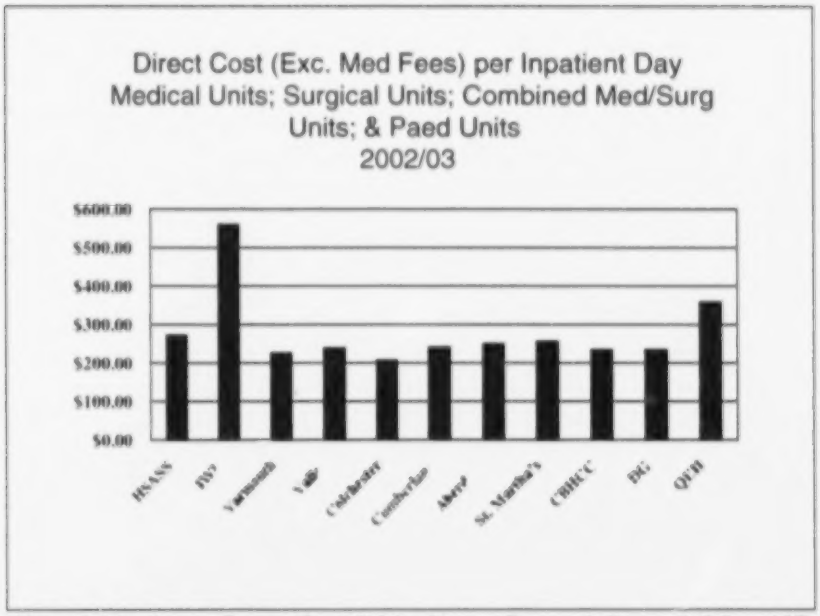
Definition: The average number of acute inpatients per calendar day.

Significance – Rationale and Notes for Interpretation
An indicator of resource use, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: The total number of acute inpatient days (secondary account 403*), divided by the number of calendar days (365).

$$\frac{Inpatient\ \ Days}{Calendar\ \ Days}$$

Source: NS DoH, MIS Database



Medical Units; Surgical Units; Combined Med/Surg Units; & Paed Units Acute Care/Hospital Services Fiscal Year 2002/2003

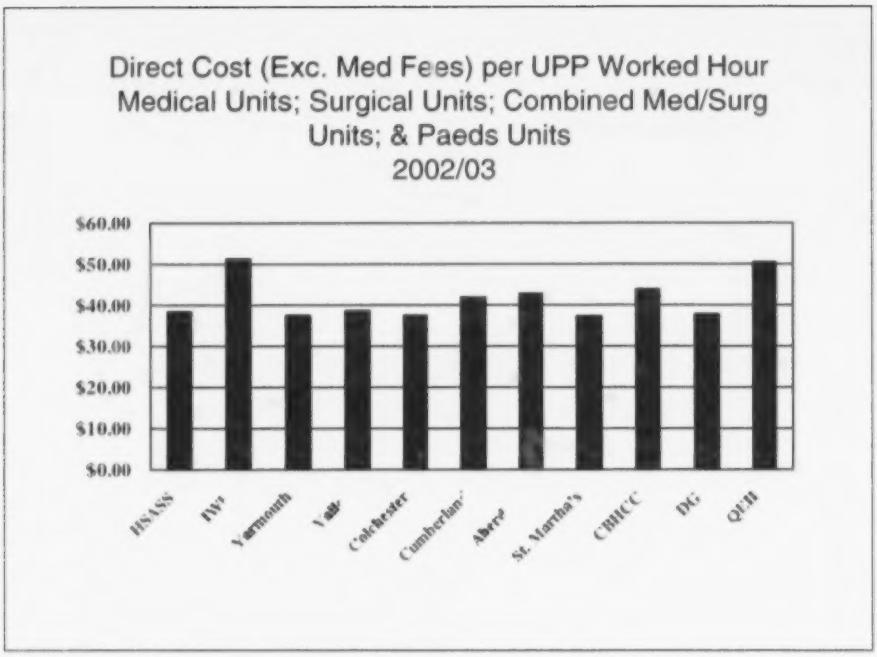
Definition: The average direct cost per inpatient day.

Significance – Rationale and Notes for Interpretation
An indicator of complexity, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: Total direct costs (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to either medical, surgical, med/surg, or paed cost centres (primary accounts 7*210*, 7*220*, 7*230*, or 7*270*) divided by the number of inpatient days (secondary account 403*).

$$\frac{Direct\ Costs\ (excluding\ medical\ fees)}{Inpatient\ Days}$$

Source: NS DoH, MIS Database



Definition: The average direct cost of a unit producing personnel (UPP) worked hour in either a medical, surgical, med/surg, or paediatric (paed.) unit

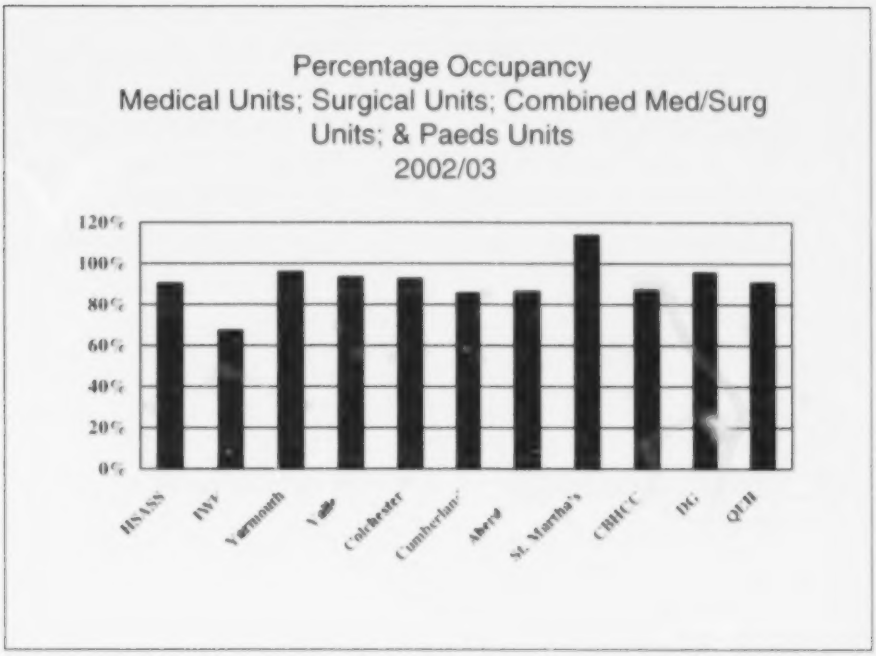
Significance – Rationale and Notes for Interpretation
Used for program planning, budgeting, and the evaluation of services.

Sources of variation could include relative incidence of overtime, staff seniority, and/or uniquely expensive supplies.

Technical Specifications
Calculation: Direct operating expenses (excluding medical fees) (secondary accounts 31010* to 99999*, excluding accounts 390*) attributable to either medical, surgical, med/surg, or paed cost centers (primary accounts 7*210*, 7*220*, 7*230*, or 7*270*), divided by the total number of UPP hours (including purchased hours) (secondary accounts 35*10* and 35*90*) worked in either medical, surgical, med/surg, or paediatric (paed.) units.

$$\frac{Direct\ Cost\ (excluding\ Medical\ Fees)}{UPP\ Worked\ Hours}$$

Source: NS DoH, MIS Database



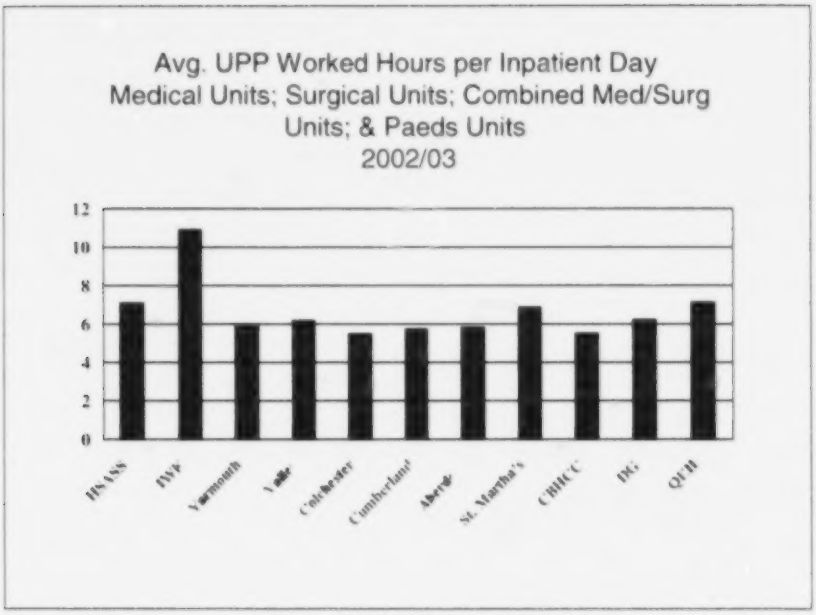
Definition: The percentage of beds which are available and staffed for inpatient accommodation and which are occupied by a service recipient.

Significance – Rationale and Notes for Interpretation
An indicator of resource use, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: The total number of inpatient days (secondary account 403*), divided by the total number of beds, staffed and in operation, attributable to either medical, surgical, med/surg, or paed cost centers (primary accounts 7*210*, 7*220*, 7*230*, or 7*270*), multiplied by the number of days in the period (secondary account 827* gives bed days staffed and in operation, the product of beds staffed and in operation, which is recorded in secondary account 825*, and calendar days), all multiplied by 100 to yield a percentage.

$$\frac{Inpatient\ \ Days}{(Beds\ \ Staffed\ \ and\ \ in\ \ Operation)(Calender\ \ Days)} \times 100$$

Source: NS DoH, MIS Database



Definition: The average length of unit producing personnel (UPP) time (in hours) devoted to one inpatient day of stay.

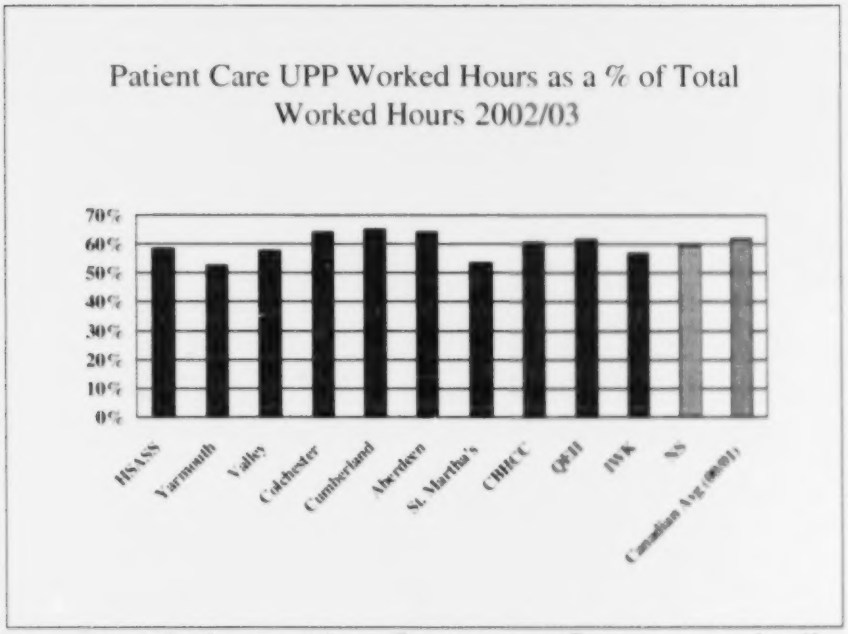
Significance – Rationale and Notes for Interpretation
Indicates the average availability of unit-producing staff for the provision of patient services for a 24-hour period.

An indicator of complexity, used for budgeting, planning, and evaluation.

Technical Specifications
Calculation: The number of UPP worked hours (including purchased hours) (secondary accounts 35*10* and 35*90*) attributable to either medical, surgical, med/surg, or paediatric (paed.) units, divided by the total number of inpatient days (secondary account 403*).

$$\frac{\textit{UPP Hours Worked}}{\textit{Inpatient Days}}$$

Source: NS DoH, MIS Database



Management Information Systems Corporate Indicators

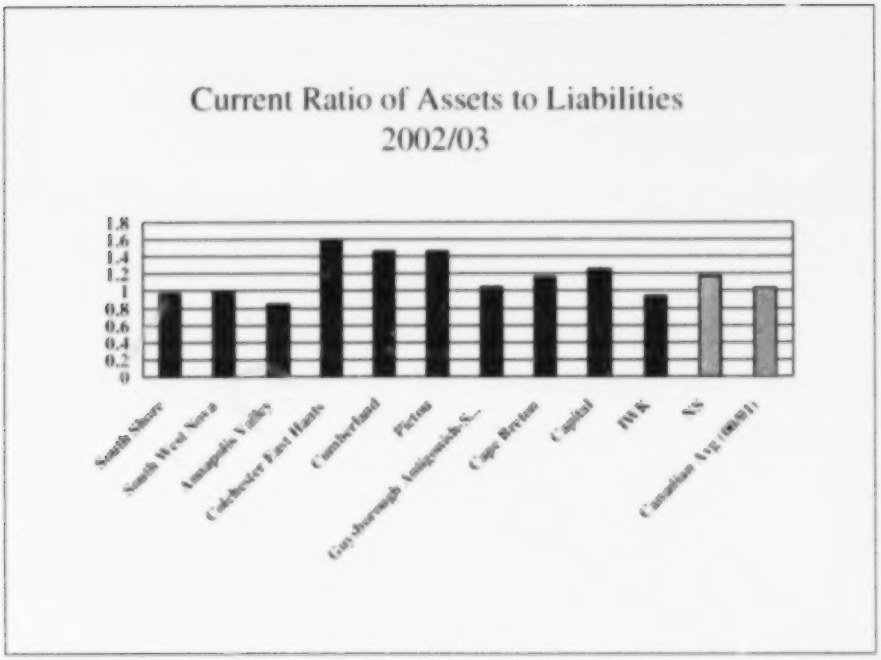
Definition: The proportion of all UPP worked hours, worked in direct patient care (in nursing inpatient units, ambulatory care services, and diagnostic and therapeutic services).

Significance – Rationale and Notes for Interpretation
Measures human resource use, used for budget planning and service evaluation.

Technical Specifications
Calculation: UPP worked hours (including purchased hours) (secondary accounts 35*10* and 35*90*) assigned to direct patient care cost centers (primary accounts 7*2*, 7*3*, and 7*4*), divided by UPP worked hours (including purchased hours) (secondary accounts 35*10* and 35*90*) for all cost centers (all primary accounts 31*10 and 31*90).

$$\frac{\textit{Patient Care UPP Worked Hours}}{\textit{Total UPP Worked Hours}}$$

Source: NS DoH, MIS Database



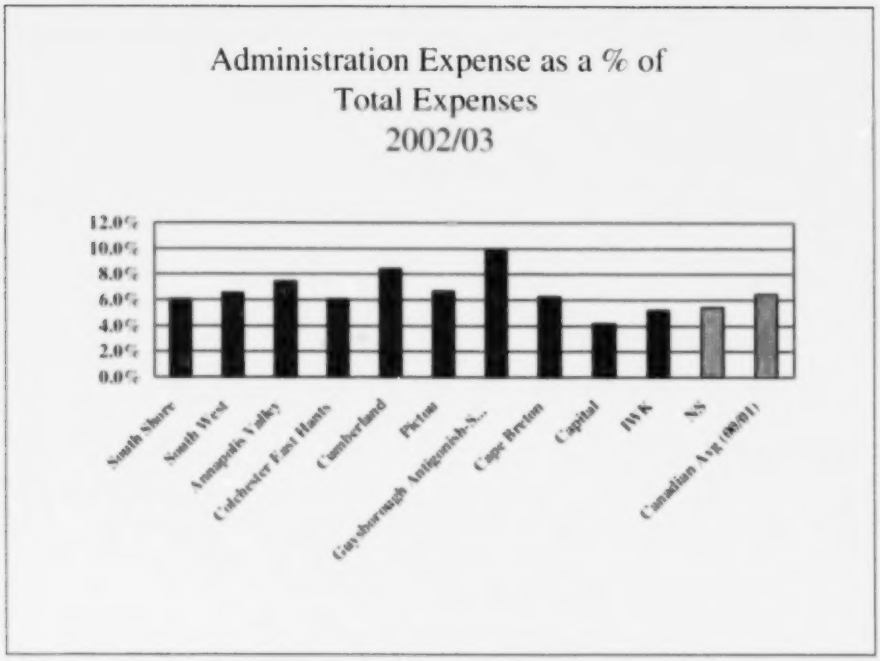
Definition: The ratio of current assets to current liabilities.

Significance – Rationale and Notes for Interpretation
An indicator of liquidity that measures how current assets and liabilities are managed. The inability to meet short-term obligations can hinder the delivery of quality patient care services.

Technical Specifications
Calculation: Current assets (primary accounts 1*) and debit current liability balances (excluding deferred revenues) (debit balances in primary accounts 4*, excluding accounts 4*8*), divided by current liabilities (excluding deferred revenues) (primary accounts 4*, excluding accounts 4*8*) and credit current asset accounts (excluding current asset contra accounts) (credit balances in primary accounts 1*, excluding accounts 1*4*).

$$\frac{Current\ Assets + Debit\ Current\ Liability\ Balances\ (excluding\ Deferred\ Revenues)}{Current\ Liabilities + Credit\ Current\ Asset\ Balances\ (excluding\ Current\ Asset\ Contra\ Accounts)}$$

Source: NS DoH, MIS Database



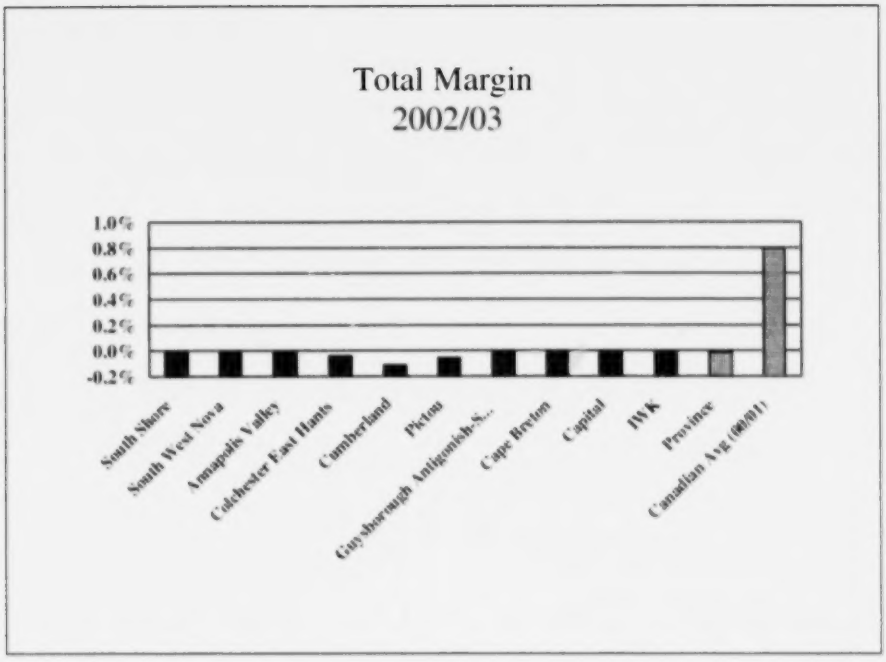
Definition: The proportion of total expenses attributable to administration.

Significance – Rationale and Notes for Interpretation
An indicator of a hospital's efficiency.

Technical Specifications
Calculation: Expenses (secondary accounts 3* to 9* net of accounts 120*, 121*, 122*) assigned to administrative cost centers (primary accounts 7*110 *, 7*115*, 7*120*, 7*130*), divided by total expenses (net of recoveries) (secondary accounts 3* to 9*, net of accounts 120*, 121*, 122*) assigned to all cost centers.

$$\frac{Administrative\ Expenses}{Total\ Expenses}$$

Source: NS DoH, MIS Database



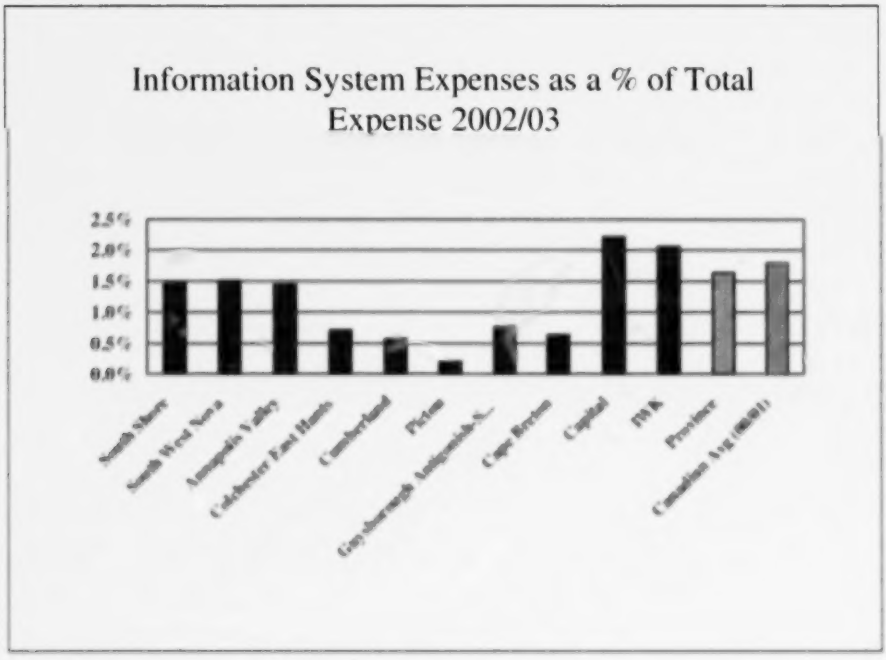
Definition: Revenues less expenses, as a proportion of total revenues, excluding internal recoveries.

Significance – Rationale and Notes for Interpretation
Measures financial viability and expected long-term financial health. It is strongly influenced by positive financial outcomes on a yearly basis.

Technical Specifications
Calculation: Total revenues (secondary accounts 1) less total expenses (secondary accounts 3* to 9*), divided by total revenues (excluding internal recoveries) (secondary accounts 1*, excluding accounts 121* and 122*).

$$\frac{Total\ \text{Re}venues - Total\ Expenses}{Total\ \text{Re}venues(excluding\ \text{int}ernal\ re\,\text{cov}eries)}$$

Source: NS DoH, MIS Database



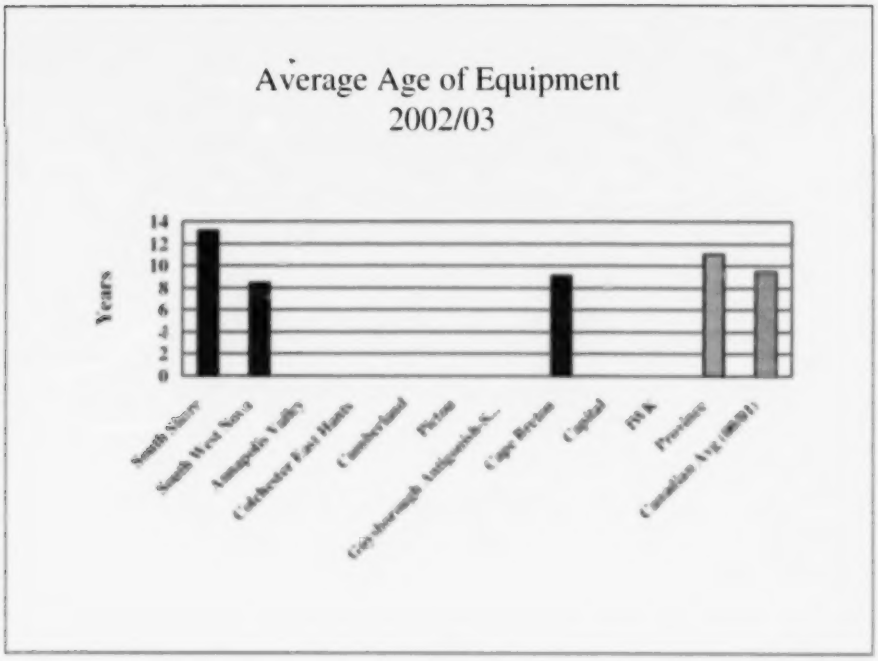
Definition: The proportion of total expenses attributable to information systems.

Significance – Rationale and Notes for Interpretation
Administrative Expense as a proportion of total expense is a measure of efficiency. This is an indicator that examines the expenditures on information services.

Technical Specifications
Calculation: System support set of internal recovery divided by total expenses set of recoveries for all cost centers. MIS account codes used in the numerator include primary accounts 7* 1 25, secondary accounts 121*, 122*, 3* to 9*. The denominator includes secondary financial accounts 121*, 122*, 3* to 9*.

$$\frac{Systems\ Support,\ net\ of\ Internal\ Recoveries}{Total\ Expenses,\ net\ of\ Internal\ Recoveries}$$

Source: NS DoH, MIS Database



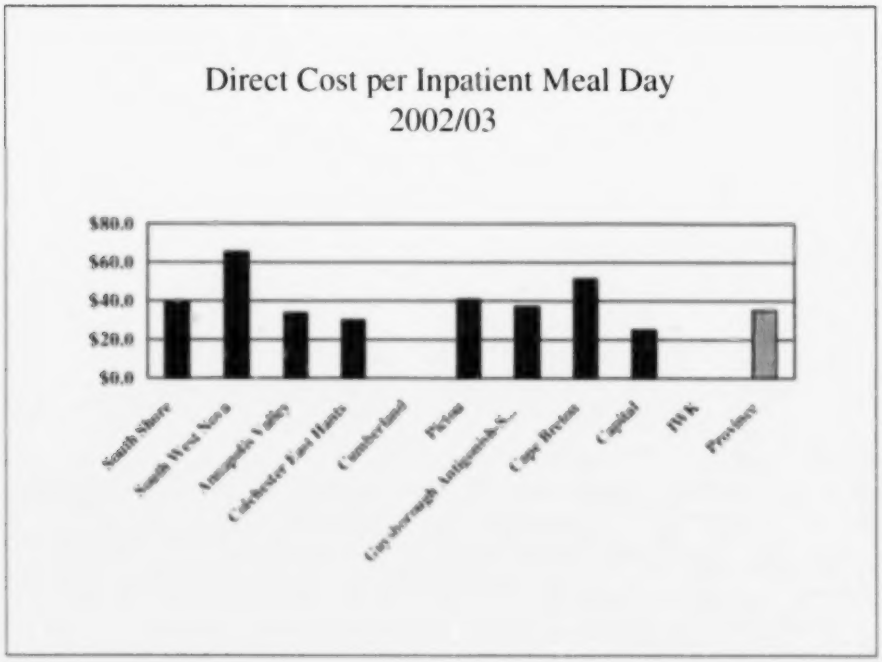
Definition: The average age of equipment.

Significance – Rationale and Notes for Interpretation
This measure examines the relationship between yearly equipment amortization and the total accumulated amortization for equipment assets.

Technical Specifications
Calculation: Accumulated equipment amortization, both distributed and undistributed (primary accounts 3*851* and 3*856*) divided by total equipment amortization expense, both undistributed and distributed (primary accounts 7* and 8*).

$$\frac{Accumulated\ \ Equipment\ \ Amortization\ \ (distributed\ \ and\ \ undistributed)}{Equipment\ \ Amortization\ \ Expense\ \ (distributed\ \ and\ \ undistributed)}$$

Source: NS DoH, MIS Database



Definition: The total direct cost of providing an inpatient meal day.

Significance – Rationale and Notes for Interpretation
Used for program planning, budgeting, and the evaluation of services.

Technical Specifications
Calculation: Total direct cost for patient food services divided by total inpatient meal days. Expenses for patient food services (7*195, 3* to9*) divided by inpatient meal days (26410*)

$$\frac{\textit{Total Direct Cost for Patient Food Services}}{\textit{Total Inpatient Meal Days}}$$

Source: NS DoH, MIS Database

How Did We Do?

Your comments and feedback about the "2002-2003 Annual Statistical Report" are valuable to us. Please complete this questionnaire and send it to:

2002-2003 Annual Statistical Report Feedback
Nova Scotia Department of Health
Performance Measurement & Health Informatics
1690 Hollis Street, 10th Floor, PO Box 488
Halifax, NS B3J 2R8
OR Fax: 424 0506 OR Email: boydc@gov.ns.ca

Instructions
For each question, please put an X beside the most appropriate response. There are no right or wrong answers; we are only interested in your opinions. Individual responses will be kept confidential.

Overall Satisfaction with the Report

How did you find out about "The 2002-03 Annual Statistical Report"

- News Media
- Government Alert
- Internet search
- Colleague / Peer
- Other, please specify _____

How did you obtain your copy of "The 2002-03 Annual Statistical Report"

- It was mailed to me
- I obtained my copy from a colleague
- I accessed it through the Internet
- I ordered my own copy
- Other, please specify _____

To what extent have you read through the report?

- I have read through the entire report
- I have read certain chapters and browsed through the entire report
- I have browsed through the entire report
- I have not read any part of the report in any detail

How satisfied are you with the following aspects of the report?

a. Clarity	Excellent	Good	Fair	Poor
b. Format	Excellent	Good	Fair	Poor
c. Use of Figures	Excellent	Good	Fair	Poor
d. Graphs	Excellent	Good	Fair	Poor
e. Level of Detail	Excellent	Good	Fair	Poor
f. Length of Report	Excellent	Good	Fair	Poor

Usefulness of the Report

Please indicate how useful you found the following sections of the report.

Section 1	Very Useful	Somewhat	Not useful	Did not read
Section 2	Very Useful	Somewhat	Not useful	Did not read
Section 3	Very Useful	Somewhat	Not useful	Did not read
Section 4	Very Useful	Somewhat	Not useful	Did not read
Section 5	Very Useful	Somewhat	Not useful	Did not read
Section 6	Very Useful	Somewhat	Not useful	Did not read
Section 7	Very Useful	Somewhat	Not useful	Did not read

Other Comments

How do you plan on using the information in this report?

What did you find most useful about this report?

What did you find least useful about this report?

Is there anything you would like to see included in future reports?

How could we improve this report for future releases?

Have you read other provinces reports? If so, how did we compare?

Reader Information

Where do you live?

- Nova Scotia
- Prince Edward Island
- Quebec
- Manitoba
- Alberta
- Northwest Territories
- Nunavut
- Newfoundland
- New Brunswick
- Ontario
- Saskatchewan
- British Columbia
- Yukon
- Outside Canada (please specify)

What is your main position or role?

- General Public
- Health Services / Manager Administrator
- Board Member
- Elected Official
- Government employee
- Student
- Health Care Provider
- Policy / Planning / Decision Support Analyst
- Educator
- Researcher
- Policy Maker
- Other (specify)

Thank you for completing and returning this questionnaire